FEBRUARY, 1943

fuel oil & oil heat

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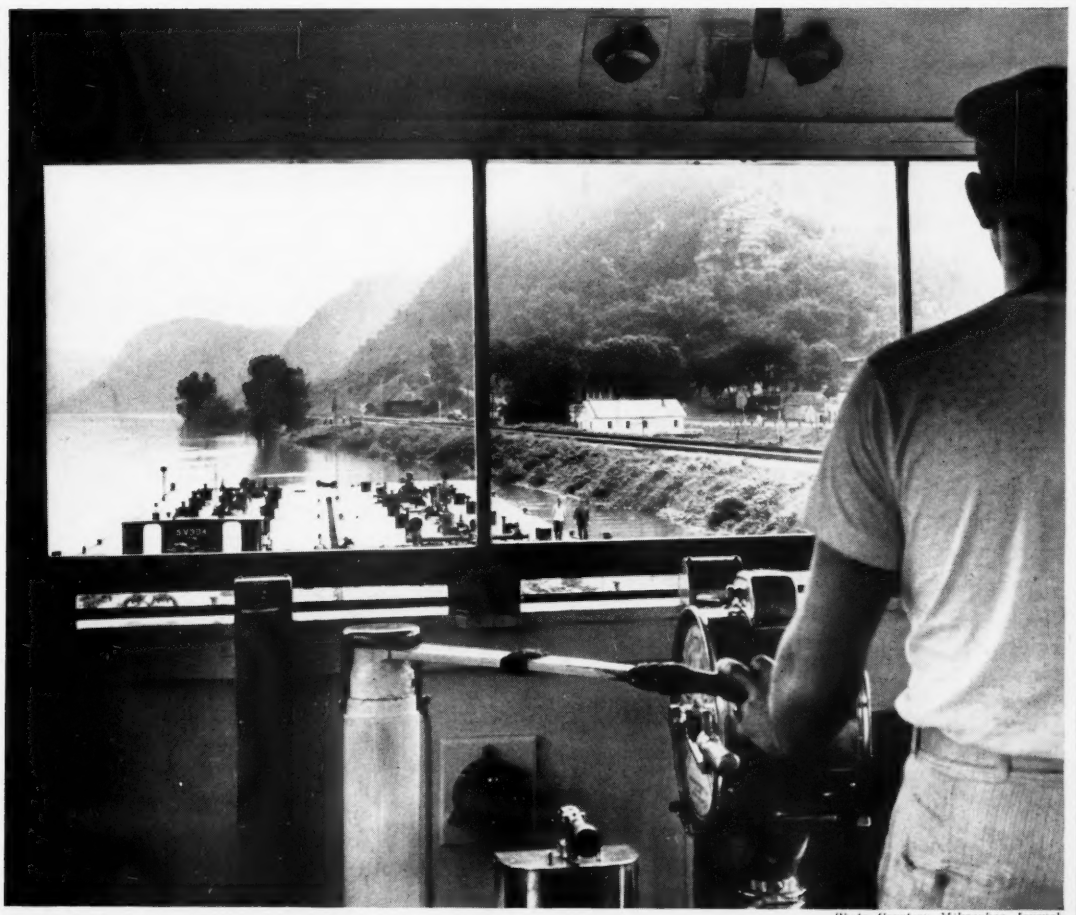

Photo Courtesy Milwaukee Journal

Oil on Untroubled Waters

$3.00 a Year, 25 Cents a Copy

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after chow . . .

THEY'LL TAKE ANOTHER STEP TOWARD **VICTORY**

Wherever they may be, in Africa, on Guadalcanal, in Iceland, England or Alaska, the men of the United States armed forces are better fed than any other group of fighting men in the world. Our soldiers are getting the vitamins, minerals and other essential food elements which are necessary to make them healthy, happy, strong . . . and Victorious!

We of the Silent Glow Oil Burner Corporation are having a hand in the feeding of these fighting Americans for we are supplying a large quantity of portable and stationary cooking units for use in camps and on the battlefields of the world.

When the war is over, the knowledge gained from meeting and solving a multitude of war-time problems will enable us to offer you new and infinitely better oil burners . . . of all types and for all uses. We trust that day is not far distant, and remind you that we can all help to bring it closer by the regular purchase of United States War Savings Bonds and Stamps.

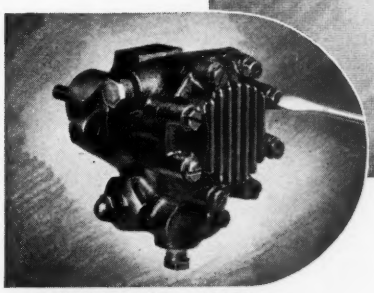
SILENT GLOW
OIL BURNER

FOR HEATING, COOKING, PROCESSING

THE SILENT GLOW OIL BURNER CORPORATION, HARTFORD, CONNECTICUT

Sundstrand

SERVICE SUGGESTIONS



REMOVE COVER SCREWS

REMOVE COVER & STRAINER

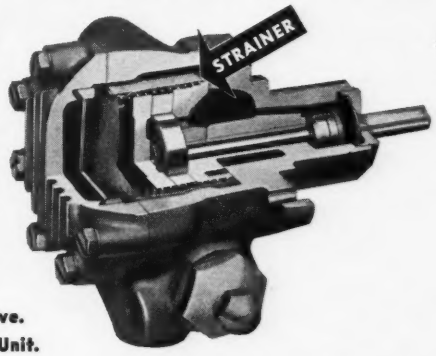
WASH STRAINER THOROUGHLY

*1. Clean the Strainer...

In these days of fuel rationing and short repair parts stocks, it is important to keep Sundstrand Fuel Units operating at full efficiency. A dirty strainer may cause pulsating pressure, a vacuum squawk, or a stoppage of oil flow. On maintenance or trouble-call work, be sure to clean the strainer if any of these symptoms appear. Watch the strainer cover, too—a loose cover may cause an oil leak or irregular pressure, a faulty gasket may make the pump noisy due to air leak.

CROSS-SECTION OF S-1 FUEL UNIT

This cut-away picture shows the location of the strainer, which is a cup-shaped unit of fine wire mesh. The pictures at the left show how to remove it. For cleaning, slosh the strainer in a can of suitable solvent (such as naphtha, neutral spirits, gasoline, or kerosene) or wash it under a faucet using plenty of very hot water. Replace the strainer, cover, and cover gasket carefully. *Do not remove the entire pump if the trouble is only a dirty strainer.*



***To follow: 2. Check the Nozzle Valve.**
3. Check the Anti-Hum Unit.

SUNDSTRAND PUMP DIVISION

SUNDSTRAND MACHINE TOOL CO. ROCKFORD, ILLINOIS U.S.A.

2556 ELEVENTH ST.
ROCKFORD, ILLINOIS

Fuel oil & oil heat

THE MERCOID CATALOG IS A GOOD REFERENCE BOOK WHEN IN NEED OF AUTOMATIC CONTROLS. A COPY WILL BE SENT UPON REQUEST.

The Mercoid Corporation, 4213 Belmont Avenue, Chicago, Ill.

VOL. I NO. 10

fueloil & oil heat

FEBRUARY 1943

Names in the news

Prentiss M. Brown has been appointed Administrator of the Office of Price Administration, succeeding Leon Henderson, who resigned for reasons of health.

Philip D. Reed has relinquished his posts as director, chairman of the board and chairman of the executive committee of General Electric Co., to devote full time to his war work, as deputy chief of the Harriman Commission, in London.

E. C. Fink, president and chairman of the board of Mack Trucks, Inc., died in New York January 1, aged 62. A pioneer in the truck industry, Mr. Fink had been an officer of the company since its organization in 1911. Elected to succeed him as president is *Charles T. Ruhf,* and as board chairman *Louis G. Bissell,* both active in the company's affairs for many years.

J. F. M. Taylor and *H. Bloemgarten* were elected vice-presidents of Shell Oil Co., Inc., effective January 1, according to an announcement by Alexander Fraser, company president.

Milton K. Arenberg, granted leave as president of Robert Barclay, Inc., Chicago, is now a Lt. Commander in the Navy, serving as technical officer at the Tampa Shipbuilding Co., Tampa, Florida. He was also a Naval officer in the last world war.

Arnold S. Peterson, formerly Eastern Zone manager of the gas heating equipment division of Minneapolis-Honeywell Regulator Co., is now instructing Army Air Force personnel in servicing flight equipment produced by the company.

Judson C. Burns, founder and president of the Philadelphia company of the same name, and one-time oilburner distributor, died January 26, aged 72.

Frank A. Watts, on leave of absence from Humble Oil & Refining Co., Houston, has been named director of the Materials Division of PAW.

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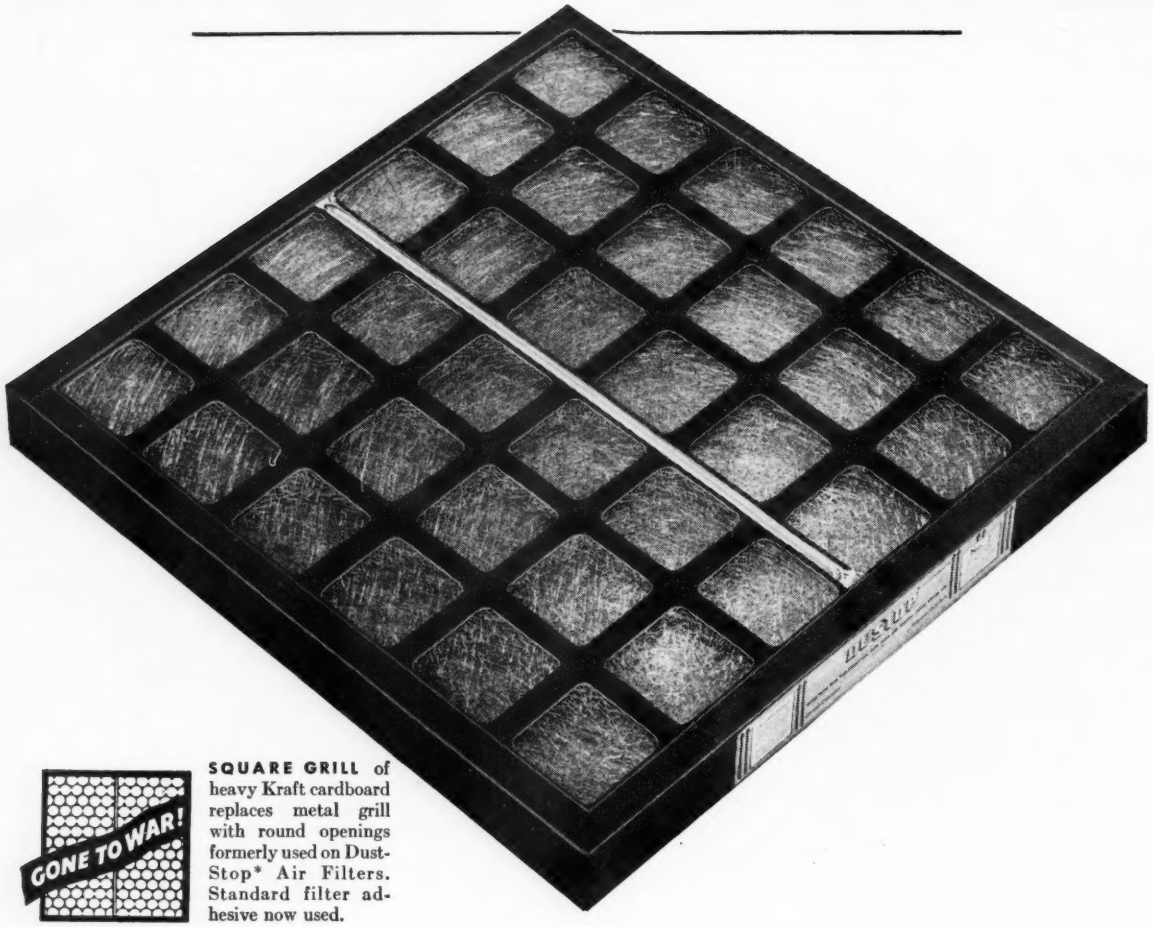
HERE IS DUST-STOP'S NEW "WAR" FILTER!



SQUARE GRILL of heavy Kraft cardboard replaces metal grill with round openings formerly used on Dust-Stop* Air Filters. Standard filter adhesive now used.

1 Quickly available
2 Price and maintenance economy the same
3 Filtering efficiency maintained
4 Saves critical metals and materials

BOMBER and tank plants, instrument manufacturers, scores of other war industries are using Dust-Stops in such great quantities that more of these filters were sold in 1942 than in any other year.

For dust control in precision manufacture means mechanical ventilation or air conditioning. And the makers of such equipment recognize the importance of Dust-Stops and include them in their systems.

Householders, too, have been using Dust-Stops in greater numbers than formerly. For clean filters help assure top efficiency from forced warm air furnaces—a big point with fuel rationing.

It was the responsibility of Dust-Stop engineers to meet this increased demand. They met it by designing a filter—the new "war" filter—which saves critical materials and keeps most of the advantages of the former Dust-Stop.

Most Advantages of the Leader in the Filter Field Remain Unchanged

Performance: Capacity, 2 CFM per sq. in. of area at 300 FPM. Average resistance, new, in inches of water gauge, .065 for 1-inch, .13 for 2-inch.

Economy: Cost only 1c per CFM as original equipment for industrial installations. Less than 1/10 of 1c per CFM to replace.

Maintenance: Filter face can be vacuum cleaned or rapped out, this practice can be repeated once or twice, further reducing maintenance costs.

Easy to Change: Anyone can replace dirty filters with new Dust-Stops in a jiffy.

Availability: Made from all-American materials which are not now listed as critical. Production is being expanded to meet growing requirements.

What about Fire-safety? The famous non-inflammable Dust-Stop adhesive is no longer available. As a substitute, standard filter adhesives are now used. The filter media is still made of incombustible glass fibers.

Owens-Corning Fiberglas Corporation, Toledo, Ohio. In Canada, Fiberglas Canada Ltd., Oshawa, Ontario.

FIBERGLAS* DUSTOP* AIR FILTERS

*T.M. Reg. U.S. Pat. Off.

Editorial leaks

It is none too soon for the oilheating industry to start thinking seriously about its place in the post-war world. The coming Armistice may still be a long time off, but plans must be completed, not starting, when it comes.

If, as is currently being discussed, we must maintain a national income around $135-billion a year, every industry will have to expand its scope and activity by 50% over pre-war days. That means a factory value of oilburners and units around $60-million a year, and an installed value of $150-million, exclusive of dealer income from parts, accessories, service, oil, and extras.

If half this dollar volume is to be represented by conversion oilburners, as in the past, there will have to be a tremendous revision of distribution. If, as many believe, conversion burners will be relatively unimportant in post-war business, that will mean other changes.

Every company, obviously, must plan its own course and design its own products, but there is need for a serious meeting of the minds in the industry to contribute information and pose questions that need answers. And it will take some diligent digging to get many of the answers. For this reason, if for no other, discussion should be getting under way.

One of the most often discussed questions concerns the availability of heating oils in the future. There is no doubt that No. 2 oil will be available, but will the tire business, plastics, or the Diesel engine out-bid us for the supply. The answer, in turn, may depend on the efficiency with which we can use it for heating in our post-war equipment.

Advances in metallurgy may have a profound effect on future designs, as will the design and volume of post-war building. Warm air, steam and hot water will battle for the new market, and on the outcome will rest the fortunes of many oilburner companies; manufacturers; wholesalers and dealers.

There is much to be said, and much to be done before the Armistice. If you have ideas, suggestions or questions that need answers, please send them in. Let's start to plan our future.

◈

Recent tabulations show the nation's shipyards last year produced 62 tankships with a total deadweight displacement of 997,900 tons. It is understood that about twice as many tankers will be launched this year. The shipbuilding industry is just getting rolling. Last year's total output was 746 ships of slightly more than 8,000,000 deadweight tons.

◈

What to do with the big pipelines after the war has been a question that has frightened many in the oilheating industry, and furnished amusing speculation for many more. Now come estimates from pipeline engineers that the lines will be in full and economical operation after the war, carrying oil to the East.

Engineers estimate that a 24-inch line, operating at capacity, can carry oil from Texas to New York at an average cost of 20 cents a barrel. There is a possibility that we shall have two such lines completed by the end of the war, or shortly afterward, plus a 20-inch line. These three lines would have a capacity of 710,000 barrels a day, or about half the East Coast demand at present.

Steam tanker rates from the Gulf Coast to New York vary in normal times between 25 and 40 cents a barrel, though they have been as low as 20 cents. Modern, streamline tankers may carry oil for as little as 15 cents a barrel, but it is believed that the 24-inch lines, at least, will be able to compete favorably with most tank-ships now operating, and may constitute competition for smaller boats.

The 20-inch line will operate at somewhat higher cost than the 24-inch pipes, possibly carrying oil for about 30 cents a barrel when operated at capacity. Since all the lines will not supply more than half the total demand, it is probable that they can be operated at peak efficiency and lowest cost.

Past estimates of moving oil by pipeline have been based on relatively small lines where the cost has been as high as $1 a barrel. Since the lines now being built are the first lines of such size and length, there are no exact data on cost.

The present lines are owned by the United States Government, and the petroleum industry expects that the lines will be sold to the industry after the war, possibly at depreciated value. This would insure their continued operation to carry oil, the industry believes.

◈

These days may seem particulary inappropriate for a warning against regimentation by government agencies, but the need is great. Some control is necessary and will be accepted. Much more should be resisted.

Two years ago New York City dealers were submitting willfully, if not enthusiastically, to licensing of oilburner installers. Many otherwise sound operators reasoned that the municipal government would thereby police the industry, maintain a near monopoly on the available business for those so licensed, and "clean up" the chaos of poor work that then was flooding the market. By a system of progressively harder examinations, the benevolent city fathers were to restrict the supply of competent installers to a number that was considered adequate.

It was believed that such a licensing system would improve the quality of the installations and "protect" the public. Civil Service Commissioners, in their wisdom, were to be God-fathers to the oilheating industry and its customers.

The most recent examination for installers was given in December. Eighteen men had filed for the examination, and seven appeared to take it. None passed.

It is possible, of course, that all these men were incompetent, but from the admissions of the commissioners when they were selling the plan to dealers, it is more likely that the examination was rigged to prevent any more licenses being issued.

In these days, when manpower is so desperately needed, it would seem that the industry would be at least as much benefited by a more flexible system of control, or none at all.

Any time the industry encourages some government agency to take control over any of its functions with the hope that government will police and protect the business, we are heading straight for trouble. We are due for all the government control we can stand without encouraging unnecessary and uninformed meddling by local politicians.

To the men who stuck

The first war year is over. We'd like to say a few things—face to face—to you men who stuck with the oil heating industry.

You had less to sell in 1942—but you stuck.

It was tough sledding to keep your service organizations going—but you stuck.

Oil heating problems have gotten worse instead of better —but you stuck.

And because you stuck on the job, we salute you with "Well done."

There's still a big job to be done by all of us who are on the home front—we'll do without things—we'll buy more War Bonds—pay bigger taxes—and do everything in our power to win the war quickly and definitely.

So let's continue to stick on the job. We here at Perfex will back you up in every way we can.

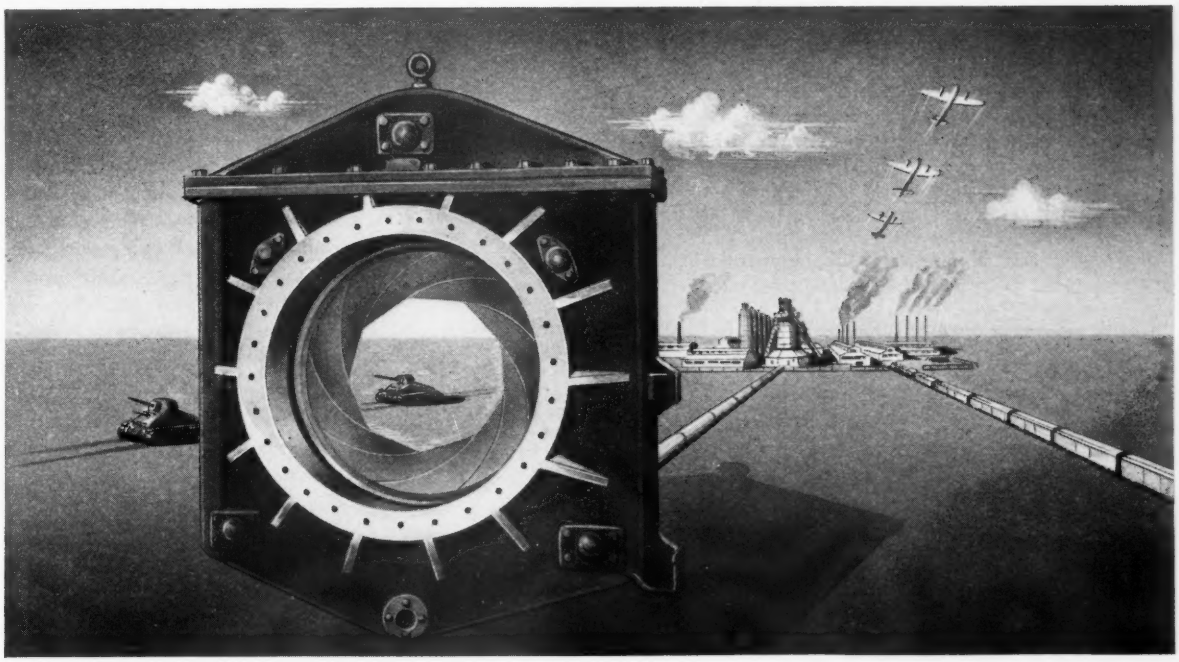
PERFEX CORPORATION

500 West Oklahoma Avenue Milwaukee, Wisconsin

MAKERS OF

Twin Contact Controls

THE IRIS SHUTTER GOES TO WAR



THE EXCLUSIVE, patented York-Heat Iris Shutter has gone to war — in countless industrial uses where an extremely accurate metering valve is necessary.

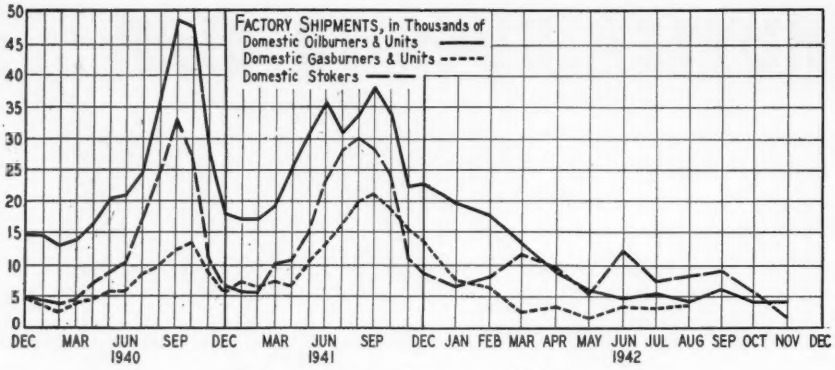
The York-Heat Iris Shutter adjustable orifice proved its worth in both Domestic and Horizontal Rotary Burners. It proved its worth as a precision orifice type metering device which accurately measures the air quantity, the orifice center remaining fixed thruout the entire range of adjustment.

The Iris Shutter grew in size for uses in industry. From the regular tiny shutter, York-Heat has built them as large as six feet in diameter. These giant Iris Shutter valves are used in the air intake of air preheating furnaces attached to the open hearth furnaces in big steel mills. The Iris Shutter, plus many other York-Heat Products, is serving industry and our armed forces throughout the world.

We're in the war with the full understanding of the need for all-out war production. However, we are not forgetting the peace which must also be won. On our drawing boards and in our testing laboratory, new oil heating equipment is taking shape — breaking all past records for performance. The York-Heat Iris Shutter is part of this new equipment. And when the war is won . . . then and then only will we again furnish you and your customers with the finest in oil heating equipment.

OIL HEATING EQUIPMENT BY YORK-HEAT

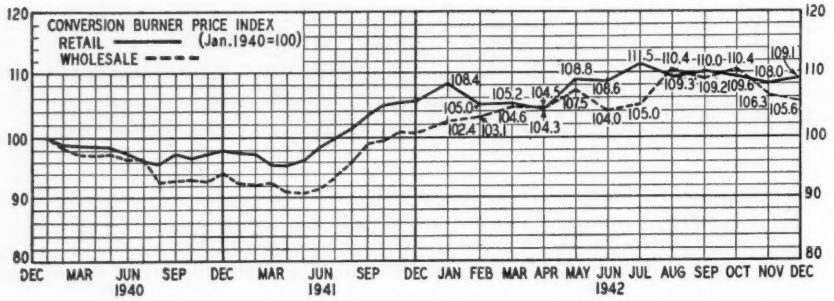
YORK OIL BURNER CO., INC. YORK, PA.
A SUBSIDIARY OF THOMAS SHIPLEY, INC.


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Gasburners & Units
Domestic Stokers
DEC MAR JUN SEP DEC MAR JUN SEP DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1940 1941 1942

Shipments of Oilburners and Units

Adjusted to include manufacturers other than the 148 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	NOVEMBER			ELEVEN MONTHS		
	1942	*1941*	*Percent Change*	*1942*	*1941*	*Percent Change*
Conversion	2,380	16,172	—85.3	67,034	232,516	—71.2
Boiler units	560	2,374	—76.5	9,319	31,394	—70.3
Furnace units	1,294	3,929	—67.0	18,283	45,329	—59.8
All domestic	4,234	22,475	—81.2	94,636	309,239	—69.0
Commercial	5,086	3,944	+29.0	54,900	33,547	+63.6
Total	9,320	26,419	—64.7	149,896	342,786	—56.3


CONVERSION BURNER PRICE INDEX
RETAIL (Jan.1940=100)
WHOLESALE
DEC MAR JUN SEP DEC MAR JUN SEP DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1940 1941 1942

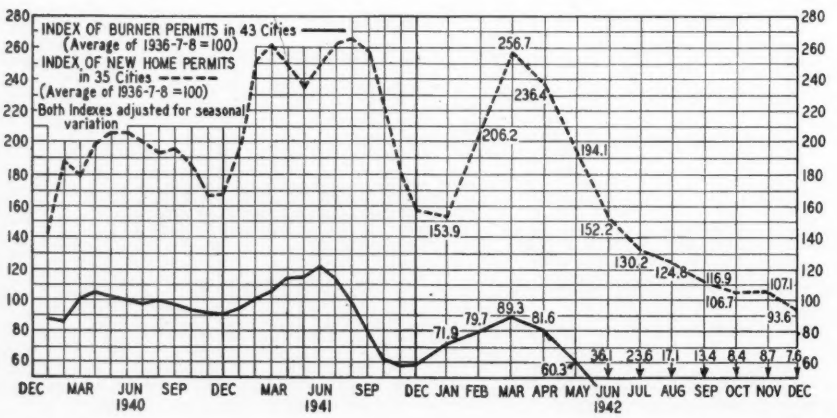
December Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS		BOILER-BURNERS		FURNACE-BURNERS	
	*Top price**	*Low price*	*Top price**	*Low price*	*Top price**	*Low price*
Highest	$338	$195	$650	$395	$715	$398
Lowest	215	165	410	230	425	295
Dec. aver.	272	178	518	362	498	360
Nov. aver.	262	172	515	379	513	375

*Top price key dealers for conversion burners are those whose minimum retail prices are $200 or more; for boiler-burner and furnace-burner units (exclusive of ductwork) those whose minimums are $400 or over.

Price Index: Conversion Burners: Jan. 1940 is 100%

WHOLESALE				RETAIL			
December	105.6	Six months ago	104.0	December	109.1	Six months ago	108.6
November	106.3	Year ago	100.9	November	108.0	Year ago	105.8


INDEX OF BURNER PERMITS in 43 Cities
(Average of 1936-7-8=100)
INDEX OF NEW HOME PERMITS
in 35 Cities
(Average of 1936-7-8=100)
Both indexes adjusted for seasonal variation
DEC MAR JUN SEP DEC MAR JUN SEP DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1940 1941 1942

Oilheating Trends

INSTALLATIONS OF DOMESTIC oilburners and units in December are estimated at 2,077, a decline of 88% from the same month the previous year. The percentage drop is less than in the Fall months, showing that the down curve has probably flattened. Necessary replacements, as the coldest months force burners to peak operation, may push January and February sales to well above December. Oilburner permits for December, reported from 40 principal oilheating markets, were off 89.9% from last year, while key dealers say their sales dropped 86%. In November, 2,472 burners were installed; in October 3,175.

PRICES: Retail prices were up in December about a point over November; wholesale down fractionally. Principal retail rise was in conversion burners, with boiler and furnace units generally weaker.

STOCKS: Reporting key dealers had on hand an average of 24 burners and units on January 1, compared with 23 December 1 and November 1. It appears that these larger dealers are getting from factory stocks the burners they need for replacement sales, keeping their own stocks intact. Replacement sales under P-84 carry an A-10 priority, which can readily be passed along to the factory. Total dealer stocks in the country on January 1 are estimated at 18,850, composed of 13,820 conversion burners, 1,670 boiler-burner units and 3,360 furnace-burner units. The latest month for which manufacturers' stocks are known is November. On November 30 factory stocks of burners and units were 40,682. During the month of November factory shipments of domestic burners and units were 4,234 and new factory production 3,552.

SERVICE INCOME: December service department income of reporting key dealers averaged $3,080, up 25.2% from $2,460 for the same dealers the previous year. This showed about the normal seasonal rise above November, when the average was $1,986.

STOKERS: November shipments of Classes 1 and 2 domestic stokers were: anthracite 361, bituminous 1,357, combined 1,718, which is down 84.6% from 11,304 in November 1941.

CONVERSION TO COAL: Domestic oilheating users who had converted to coal by January 1 were 3.9%, according to re-

ports from fueloil distributors and oil-heating dealers, who state how many of their own customers have made the change. This is only about half the number claimed by men assigned to conversion work within the various Washington agencies. Conversions of commercial and apartment buildings are at a higher, though unknown, rate. Before the winter is over, probably half of such buildings in Eastern States will have been converted, though the percentage of home conversions will hardly reach an impressive figure this season.

RATIONING OBSERVATIONS: In November, Amendment 7 to the Rationing Law required that all buildings, other than private homes, be refused oil after Period 2, if their heating plants were convertible. The majority of local boards paid little attention to it at the time; they were too busy getting out coupons. At the end of December the Rationing Division in Washington started putting on pressure to get this done, in view of the weakening oil supply position in the East. As of January 10, Eastern dealers report that 86% of the boards were taking this seriously and forcing these conversions; the other 14% were not. In Midwest States, 38% are forcing the conversions, the remaining 62% are not.

Largely due to unannounced withdrawals by the Army from Eastern ports, some homes and more business buildings have been completely out of oil for one to several days at a time. Of all Eastern dealers reporting on this question, 18% say they have had some home customers completely out of oil, while 63% of dealers say they have had one or more commercial customers with dry tanks because the dealer had no oil to bring them. In the Midwest no dealer reports either home or commercial customer as having run completely out. Asked whether any schools in their communities had been closed temporarily either through lack of oil or to conserve oil on hand, 17% of Eastern dealers say some schools have been closed, the other 83% haven't heard of any. In the Midwest no schools are reported closed for this reason.

Sales volume of fueloil (in gallons) in the 30 rationed states is reported by dealers as 22.2% below last year to January 10. The season has been colder, so the actual cut due to rationing and conversions is greater than that figure. In Eastern States, the reported average reduction is 26.5% and in Midwest States 13.6%. On the other hand, truck mileage to deliver the oil has not dropped in the total area, instead it increased 8/10 of 1%. Sectionally, Eastern mileage increased 1.9%, while Midwest mileage dropped 1.0%.

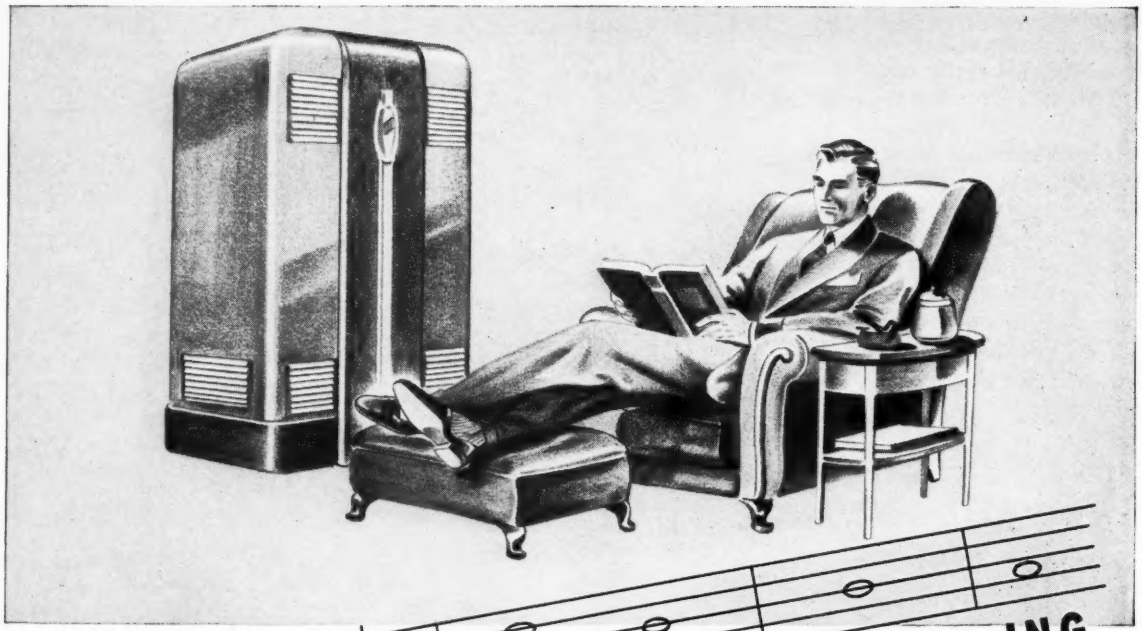
This indicates that Eastern distributors drove their trucks 38% farther to deliver each gallon of oil than in pre-rationing days, and that average delivery cost per gallon went up 2¾ mills. Midwestern distributors reporting have had this season 15% greater mileage per gallon de-

(*Continued on page 44*)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
December		12 MONTHS			December		12 MONTHS	
1942	1941	1942	1941		1942	1941	1942	1941
..	1	..	379	Albany, New York	..	..	..	..
0	444	1488	5074	Baltimore, Maryland	99	164	1425	4528
..	..	..	..	Binghamton, New York	5	9	20	97
..	..	..	..	Bloomfield, N. J.	0	25	118	210
92	124	946	1697	Boston, Massachusetts	20	80	198	440
0	99	201	678	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, New York	2	10	130	202
..	..	..	..	Des Moines, Iowa	0	42	531	831
0	67	662	1058	Detroit, Michigan	325	312	7613	9879
0	5	52	227	Elizabeth, N. J.	0	0	19	31
0	14	55	230	Freeport, New York	..	..	..	..
..	..	..	..	Greenwich, Conn.	0	7	23	180
..	..	..	..	Hackensack, N. J.	0	8	40	151
3	76	376	894	Hartford, Conn.	..	..	..	..
3	79	402	1126	Hudson County, N. J.	..	..	..	..
0	8	51	124	Irvington, N. J.	0	2	38	12
..	..	..	..	Lynn, Massachusetts	0	13	27	144
0	13	70	181	Meriden, Conn.	..	..	..	..
1	42	199	557	Milwaukee, Wisc.	23	69	673	980
14	83	368	1180	Minneapolis, Minn.	1	61	377	1172
..	9	..	187	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	0	2	6	12
3	12	86	313	Mt. Vernon, New York	..	..	..	..
4	41	182	765	Newark, New Jersey	..	..	..	..
1	77	135	338	New Bedford, Mass.	..	..	..	..
0	15	72	474	New Haven, Conn.	..	..	..	..
2	3	32	30	New Orleans, La.	..	..	..	..
0	16	47	175	New Rochelle, N. Y.	0	5	19	56
14	817	3339	14623	New York City (total)	..	..	..	..
11	610	2599	11893	Brooklyn-Queens	..	..	..	..
3	207	740	2730	Manhattan, Bronx, Rchd.	..	..	..	..
128	141	1271	942	Norfolk, Virginia	56	100	1178	920
1	0	22	21	Oakland, Calif.	..	..	..	..
2	52	274	963	Omaha, Nebraska	0	20	298	1015
0	8	23	100	Orange, New Jersey	0	2	14	18
0	15	32	141	Passaic, New Jersey	..	..	..	..
0	15	44	230	Paterson, N. J.	4	1	45	161
..	335	..	7233	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	0	2	52	46
0	21	67	342	Portland, Maine	1	16	111	171
0	300	994	3211	Portland, Oregon	346	59	2275	1679
..	10	..	51	Poughkeepsie, N. Y.	..	..	..	..
3	87	204	714	Providence, R. I.	0	4	40	175
..	..	..	..	Reading, Penna.	0	0	8	53
0	32	83	440	Richmond, Virginia	9	21	367	592
16	34	203	405	Rochester, N. Y.	..	..	..	..
0	20	61	265	Rockville Center, N. Y.	0	5	14	158
0	7	19	123	Salem, Massachusetts	0	2	9	30
2	39	335	516	St. Louis, Missouri	1	..	358	..
7	89	403	1545	St. Paul, Minnesota	0	26	200	792
0	36	244	505	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Washington	72	150	1863	2981
..	..	..	..	Springfield, Mass.	6	16	506	304
0	14	54	242	Stamford, Conn.	..	..	..	..
1	4	23	71	Syracuse, New York	15	3	141	110
..	..	..	..	Trenton, New Jersey	0	0	2	6
..	..	..	..	Utica, New York	0	0	79	37
7	190	892	3095	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	0	6	23	123
4	14	70	279	White Plains, N. Y.	0	0	3	54
..	24	..	490	Wilmington, Delaware	4	0	17	147
2	64	223	751	Worcester, Mass.	..	..	..	..
9	32	147	489	Yonkers, New York	..	..	..	..
310	3067	9804	27249	*Totals*	640	1173	15477	26479
—89.9	..	—63.3	..	*Percent Change*	—45.3	..	—40.1	..

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.



KEEP THE HOME FIRES BURN-ING

Now that fuel oil is rationed throughout most of the country, it is not only a necessity but a patriotic duty to extract every bit of heat possible from every gallon of fuel oil.

Boiler and furnace flues clogged with soot and carbon are "oil robbers". Dirt-clogged safety float valves make accurate control of the fire impossible.

You can build goodwill and profits for yourselves by keeping customers' burners and valves properly serviced, or by seeing to it that customers are properly instructed in the operation, care, cleaning and correct setting of their burners.

Many thousands of "DL" Safety Float Valves are operating in the field and must be kept in good condition. They are easily cleaned, or repaired if necessary.

To this end, we urge you to write to us for any instructions or repair parts lists you need, giving us the identification numbers appearing on the name plate, and we will see to it that you get the information to enable you to "Keep the Home Fires Burning" for your customer—and save oil for your country.

Oil is Ammunition
USE IT WISELY!

WATCH -DL

DETROIT LUBRICATOR COMPANY

General Offices: DETROIT, MICHIGAN

Canadian Representatives—Railway and Engineering Specialties Limited, Montreal, Toronto, Winnipeg

Coupons, or Oil?

Rationing Faces Crucial Test as February Stocks Scrape Bottom

IF THE RATIONING PROGRAM gets through February without being emasculated by concessions and backtracking, and without many homes going cold for lack of oil, it will have proven itself workable in its major provisions.

While the oil industry foresaw from the start that the roughest going would not come before February, few if any oil men expected the Eastern supply situation to become as critical as it has. The best laid plans of the District I marketing committee, and the able supply forecasts of the Petroleum Industry War Council have counted for little in the face of secret withdrawals in millions of barrels by the Armed forces for the African show.

With a large portion of Eastern stocks still nailed down and taken out of the market by Army and Navy, the February 1 weekend saw remaining stocks available for civilian uses cut to a point 25% below what had always been considered the workable minimum. Even so, few home tanks were actually dry, and industry men were demonstrating amazing ability to shuffle the precious gallons remaining from market to market on a day-to-day basis.

Unless withdrawals for the armed forces slacken temporarily during the month, an increasing number of bulk storage tanks will be making that gurgling sound like the straw at the bottom of the ice cream soda.

To meet emergency situations arising principally from too little oil, the Rationing Division has issued revisions or amendments in considerable number in recent days.

Most troublesome in application, though admittedly fair in its conception, was the non-discrimination amendment, No. 26, which provided that any supplier, either primary or secondary, must sell to anyone wanting to buy, if he comes bearing cash and coupons.

Small fueloil distributors, who have had a lurking suspicion that large suppliers would hog the market in the event of scarcity, forced a showdown with one major oil company in New York by starting court action to force compliance with the amendment. The case did not come to trial, for the major company agreed to accept the literal intent of the ruling and try to make it work. Other major suppliers followed suit.

Non-discrimination

Within a matter of hours after that action became known, the large suppliers had such runs on their bulk plants by smaller distributors that these major companies had little or no oil left to serve their own retail accounts. So they in turn prayed the Rationing Division for some relief, wanting principally permission to withhold a stated percentage of their stocks for their own people who had bought from them for years, basing the percentage on their past records of retail sales. Solution of the difficulty came February 2, with the issuing of PAW Order No. 1, Amended, which nullified Ration Amendment 26 by providing that suppliers at all levels may first supply their own customers, then sell any surplus supplies to newcomers. Sharing supplies with old customers shall be at 1942 ratios.

During January, several ration cuts were announced in Eastern States, starting with the reduction in Period 3 coupon value to 9 gallons; they will be 8 gallons in Period 4. Rations for heat and hot water in buildings other than dwellings were cut, for Periods 3, 4 and 5, an additional 25%. After the original cut of one-third from normal, then the 10% cut in reducing coupon value to 9 gallons, this last chop brought oil for these buildings down to 45% of normal . . . in most cases unworkable and speeding conversion.

Another drastic step to reduce Eastern demand came in the order to cut 40% from the ration of commercial and industrial firms using oil for purposes other than heating or hot water, and excluding essential applications such as war work or public necessities. Only large users (over 9,000 gallons a quarter) are affected, principally laundries, bottlers, brewers, etc.

In the Midwest none of these drastic cuts were necessary. Period 3 coupons had been valued at 11 gallons, and for Period 4 they will remain at 11 in the northern part of the area, but will be brought back to 10 gallons in the southern regions of that area. Midwest supplies are reported as generally ample.

Northwest is Rationed

Starting February 1, fueloil rationing is extended to include two northwestern states, Washington and Oregon. Several weeks ago, the Petroleum Administration for War asked OPA to prepare a program for that area and have it ready if supplies started looking dangerous.

Thus, the plan was ready to launch almost overnight. It provides a cut of only 25% from normal, in its overall intent, with the mechanics of the plan much the same as in other parts of the country. Firewood is also being rationed at the same time in those states.

It is reasonable to expect that before long, as the war intensifies, we will have universal fuel rationing to include coal and gas, as well as oil and wood—probably in time for next season.

Development of fueloil rationing revisions for next year are getting considerable study among industry men as well as in Government circles. It should be possible after this year's experience to work out the nearly fool-proof program. To that end helpful suggestions are invited. If dealers with ideas will write them to FUELOIL & OIL HEAT, the proposals will be presented to rationing officials at the proper time. Any suggestions to simplify the program should not, however, do away with the necessary controls that insure full records of supplies and their identification in assigned uses.

Chicago Plan

One plan now receiving some study at rationing headquarters was submitted by Melville Keim of Apex Motor Fuel Co., Chicago, and is designed to substitute paper and ledger accounting for the present coupon system, in controlling the use of rations. Admittedly simpler, it is being studied to learn if it provides enough control.

While it is important to start now getting in all useful suggestions, yet the actual program development for next season will probably wait another two or three months, to give the Rationing Division an opportunity to find out through field studies what actually happened this year. The amount of oil saved is known in a very general way, but important details are not known because local boards have been too rushed to work out the monthly analysis of their fueloil operation, a procedure that was an integral part of the original program.

Present plan is to put 12 good men from the Division into the field to study completely at least thirty thousand individual rations, following them through from original application to reviews, appeals, supplementary allowances, how they made out on their ration for the season, how their oil deliveries fit into the pattern of coupon validity periods, and the dozens of other things necessary to know before rationing can be fully understood by those who must know.

Period 4 Coupon Dates

Zone	Period Ends	Coupons Valid Until
A	Mar. 17	Apr. 17
B	Mar. 12	Apr. 12
C	Mar. 6	Apr. 6
D	Mar. 6	Apr. 6

With that job done and all the answers analyzed, next year's plan can be reasonably free of conjecture, and the fresh suggestions from the industry more readily evaluated.

Aside from the everyday difficulty with fueloil supply in Eastern states, the most serious weakness of this season's operation has been at the local board level. In a program that moves fast, and for that reason was designed with the maximum of flexibility, chaos results when it takes two to three weeks for local boards to get the material sent for their guidance. The flexibility is lost when instructions arrive weeks after the emergency is past. Of course board members can get quicker information by reading newspapers, but newspaper writers are rarely explicit enough to be a safe guide; furthermore, they carry so many conflicting interpretations originating from various sources, that boards can depend upon them only for very general information, not for fine points.

When some arrangement can be worked out for local boards to have all important instructions, interpretations, revisions and amendments within two or three days after they have been issued at Washington, half of rationing troubles will be over. It must be recognized that the very difficulty that called for the interpretation or amendment in the first place was usually some problem encountered at local boards. It does little good for Washington to find the solution if the local boards do not get this solution for some weeks.

This overall problem is recognized and deplored by Rationing Division officials; probably before next season a way will be found to send all instructions to boards at the same time they are sent to regional and state offices, rather than having to wait for the flow-through.

Stated in simplest terms, the vital point to understand is that rationing occurs at only one point—some little store building on Main Street where local board meets public. Rationing does not occur in Washington, in regional or state offices.

The plan for next year can be more successful than the one this year if it recognizes this one basic premise . . . that the plan's development must stem from the facilities and capabilities of local boards and work back toward Washington, rather than the other way around. Then the thinking at the top would be focused constantly on 54 Main Street or 13 Glen Street, and communication would be streamlined to the point of workable control.

An interesting disclosure in another section of this issue is the extent to which rationing had reduced demand for fueloil up to January 10. The actual reduction from *normal* demand in Eastern States appears to have been 29.1% and in Midwest States 19.3%.

This is after making adjustment for weather this year and last year, compared to normal. Actual gallonage reduction from last year reported by key dealers and fueloil distributors was 26.5% in the East, 13.6% in the Midwest, average 22.2% in the rationed area.

Amendments

Amendments to the fueloil rationing order have been summarized in the December and January issues, up to and including Amendment 20. Eleven more amendments issued since January 3 are summarized below:

Amendment 21, issued Jan. 3, provides that dealers and suppliers holding Period 3 coupons as of 12:01 a.m., January 4, may turn them in to local boards within 72 hours in exchange for certificates equal in gallonage to the coupons' value prior to January 4.

Amendment 22, issued Jan. 9: Makes changes in the audits and reports of primary suppliers.

Amendment 23, issued Jan. 7: Eastern fueloil users, other than residential, must surrender their coupon sheets to be tailored by local boards to effect a 25% cut in their ration. A table is provided to guide the board in removing coupons from the sheets.

Amendment 24, issued Jan. 12: Dealers and suppliers may get exchange cer-

(*Continued on page* 48)

Do It Right

Service Manager Talks about Motors, Pump Seals, Chimneys, Conversions

By
A. B. Wolle

WHAT MAY HAPPEN to our business when the war is over, and people go back to living, is apt to surprise the most optimistic of us. There will be radical changes in our living standards, the equipment we use for heating and the manner in which heat is supplied to houses as well as the type of construction. In oilheating, as in every field, some men must remain with their trade throughout the war. These men will have the opportunity of being in at the beginning of the coming advances in the science of heating.

The struggle to keep going through difficult times will sharpen the ingenuity of such stalwarts and help them to take the lead in the new things to come.

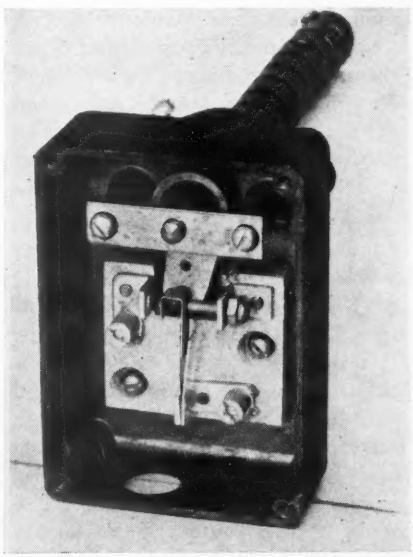
Meanwhile, nearly every day some problem comes up and a way must be found to get around the old way of handling it. Some new material must be substituted for the parts that were formerly used. Some old burner no longer manufactured must be repaired to keep it running. It is a hard job, but it can and must be done. As these new ways are found, service hints and suggestions for repairs can, if used collectively, ease the path of each one of us. No one today can afford to hold an idea or method secret to himself alone. Everyone must have the help of others in the field, if the industry is to survive.

It's a tough job, sure, but go talk to your motor man if you think you have troubles, and after you hear his tale of woe yours will seem a lot lighter. You can, however, still get motors rewound and new bearings fitted to them. It was through the efforts of the association of motor repair men that a way was found to get materials after production had been turned off completely. Motor repair labor is scarce and as much as possible of such work should be absorbed in the oil burner shop.

As motor parts are difficult to secure, it is very important that such parts which are in existence should be preserved. At one time no attention was paid to a motor so long as it ran, and when it wouldn't run it was less expensive to rebuild it than to worry about it beforehand. A new motor was another sale then. No attempts were ever made to prevent motors from going bad.

This way can not be followed today. Every motor on the string of calls should be opened up some time during the year —opened up to determine the condition of the starting mechanism and the cleanliness of the windings. Windings encrusted with dust and grease prevent the proper ventilation of the motor and cause the windings to become hard and easily fractured.

Don't clean windings by poking a screw driver in them. Bring them into the shop and blow them out with compressed air. To use a metaphor, motor leads often lead



a motor to the shop. Because of improper care they become oil-soaked, cracked and shorted. Usually their repair requires the removal of the stator and very often extensive winding repairs that could have been avoided by a little care.

When opening up a motor, the starting mechanism should be dismantled and thoroughly cleaned, using care to have clean hands when handling these parts. To do this cleaning thoroughly there are several phenol bearing compounds (they smell like carbolic acid) that can be used effectively since they permit the flushing of all parts afterwards with boiling water which cleans them well and dries them at the same time and prevents their rusting.

Replace worn parts. Don't let them go until they fail to function and burn out the motor. Sleeve bearing lubrication is accomplished by oil soaked wool yarn laid against the motor shaft. Once this yarn becomes hard it fails to lubricate the shaft. About once in every two years this yarn should be removed and washed in the same type of phenol solution as the motor parts. After it is thoroughly dried and repacked into the bearing housing it is as good as new. If you run out of yarn have your wife give you some of the stuff she is making into a sweater for you this winter. It is the same material. The cleaning of ball bearing motor bearings should be handled in the same way whether they are grease or oil lubricated. Always remove all of the old lubricant completely.

In checking over the oil burner motors brought into one shop for repairs, it was found that these repairs could be classified somewhat as follows:

34% starting switch and commutator repairs
18% winding replacement
9% motor lead replacement
28% bearing replacement
11% just cleaning

By keeping classifications of this sort on any one item a very good idea can be had of the type of stock parts to be kept on hand. It also shows the amount of shop work that the oil burner man can do without farming out too much to someone else.

For example, a certain type of circulator developed motor trouble due to poor lubrication. The motor shop would al-

ways replace an identical bearing which would work for the same length of time and go bad again. Believing that when these conditions arise they often can be cured in the service repair shop, an examination was made of the conditions of the motor bearings and their lubrication.

It was soon discovered that the thrust bearing was not receiving proper lubrication. Knowing the effect, the cause was eliminated by rearranging the nesting of the packing used and by cutting oil grooves into the proper surfaces to allow the oil to move as it should for good circulation. This was tried out before these motors became scarce.

Now there is no question about what to do with this type of motor. Everyone in the shop recognizes it and a repaired spare replaces all defects of this type. Calls for help at 5:30 a.m. from this source are not as nerve-wracking as they once were.

Speaking of calls for help—everyone has a raft of phoney calls, badly entered calls, and poorly described calls as well as silly service calls coming in over the phone every day. It is very important now that these calls be handled properly to conserve man hours and mileage.

What profit is there in the rush call to a house where an oil odor or gas odor is reported, to discover that there is a dead mouse in the heating duct or that the cap is left off of the sewer trap. These calls are an absolute waste of effort even when they are paid for C. O. D. While the much overworked service man is running down a call like this, someone with real trouble must sit and wait for help.

The person receiving these calls can be instructed to filter out the phoneys from the legitimate calls. One way to do this is by asking questions at the time the call is made and try by these questions to get a better idea of what the trouble is all about. To take a call on an odor just because the customer says so is no help to the service man—or the business—or tires—or gas—or manpower. Not only that, but a good service man likes to know what he is going to find when he gets on the job and that kind of a call means nothing.

In the case of an odor call, for example, the dispatcher should ask the calling party to go to the basement and see if it is coming from the furnace or not. If it is not, let someone else worry about it and save the mileage. Odors can be oil burners on a rampage. Plenty of odors are caused by plugged chimney bases. A service man has not fully qualified in his profession until he has pulled at least one dead bird, a squirrel and a bunch of leaves and soot out from the entrance of the smoke pipe to the chimney.

While leaking chimneys are not usually in the scope of the service man, they are closely allied to his work. Many chimneys, to begin with, are built by someone who doesn't give a hang about his work or perhaps doesn't know what he is doing. The proper functioning of chimneys is so important to good burner operation that it is worth discussing here.

When a chimney works, the draft created in it acts like a spring that lifts the products of combustion out of the furnace. When this draft is satisfied by air leaking into the chimney the tension of the spring is lessened until it becomes nil and the blower of the burner creates a positive pressure in the boiler. The same condition can exist when the chimney base is plugged.

It is easy enough to find out where the trouble is, and when it is a chimney leak a specialist in this work must be relied upon. Leaks are detected by smoke tests. To make a smoke test, a smoke bomb is placed in the base of the chimney and then the base is sealed. When smoke appears from the top of the chimney the top is sealed. The bomb continues to burn, creating smoke in a great volume. This smoke finds its way out of the chimney through all of the breaks in the chimney lining.

Smoke tests on chimneys have produced quite astonishing results. In one case there were so many chimney leaks that smoke poured into all of the rooms in the house adjacent to the chimney as well as out from under the eaves and face brick of the building. This owner had been troubled for years with soot that came out into the house and darkened the wallpaper, coated the windows and dirtied the curtains at the windows; a condition by the way that never existed when coal was used, which brings up another point.

The owner went to burning oil because coal firing would not give enough heat. The leaking chimney would not draw enough air through the fire to produce the right burning rate. This is now the best installation in the neighborhood, if you will listen to the owner telling about it. All it took was a good chimney repair man and a service man to clean up the burner afterwards.

Everyone has had a call with desperation in every word about a bad leak in the boiler, and great quantities of water running all over the floor. Naturally the hysteria of the person making the call is transmitted to the one receiving it and a big effort is made to get someone there in a hurry. Nine out of ten times a hot water storage tank or a water pipe has let go and the service man takes over a plumber's job of putting in a tank plug.

The other one time out of ten there is a broken gage glass.

Where customers are spread all over the map and where these customers have hot water storage tanks, it has proven worthwhile to fasten a red mailing tag on the water supply shut-off to the hot water storage tank in the furnace room. Take some permanent member of the house down and point out the tag and say "Turn that valve should water ever squirt out of that tank." These tags are put on during routine inspections and they do save trips. Of course if you are a com-

(*Continued on page* 45)

Eastern Supply Shorter

FUELOIL SUPPLIES along the Atlantic Coast continued to grow more critical by the day during January, in spite of optimistic statements by responsible officials. While newspaper promises of adequate supplies appeared, coupon values of Period 4 were cut another 10% from their original value in the Northeast. Class 1 coupons now are worth only 8 gallons and Class 2 have been cut to 80 gallons. Some commercial users have been refused oil in New England.

Petroleum Administrator Ickes, on January 21, banned the use of tank cars to haul gasoline to the East, releasing these additional cars for fueloil.

E. S. Ferguson, regional director of OPA at New York was reported to have said that fueloil in storage was adequate to see his territory through the winter. Within three days the value of coupons was further cut.

J. J. Pelley, president of the Association of American Railroads, told a congressional committee on January 27 that the rail flow of oil would be raised 15% to around 900,000 barrels a day. He cited four factors that would contribute to the increase:

(1) Movement of 20,000 bbls. in metal drums loaded in boxcars;

(2) An additional 20,000 bbls. a day by diversion of more tankcars to eastern service;

(3) Additional loading facilities to speed turn-arounds, adding 25,000 bbls. a day, and;

(4) Completion of the 24-inch Texas-Illinois pipeline early in February to shorten the haul East, adding 43,000 bbls. a day.

Meanwhile, rail movement of oil hangs slightly under 800,000 bbls. a day. The record during recent weeks, in barrels per day shows:

12/26	700,827
1/ 2	775,708
1/ 9	822,837
1/16	818,331
1/23	798,552

About 200,000 steel drums now are in service, carrying kerosene to New England; 500,000 more drums, with a capacity of 600,000 barrels, are being delivered for use in this service, and 500,000 more can be made available if flat cars are free to handle them. Additional locomotives are going to be made available this year, so the railroads hope to be moving about 1,000,000 bbls. a day by fall.

PAW Ickes has announced that work is scheduled to start in March on the second big pipeline; an 836-mile, 20-inch "products" line to deliver 235,000 bbls. a day from Texas to loading points in Illinois and Indiana. It is possible that this line may also be extended to the East Coast.

This new line will handle only gasoline for military and lend-lease needs, and will benefit civilian supply only to the extent to which it will relieve other facilities. It will follow the route of the 24-inch crude line now nearing completion.

For the immediate future, there are no figures on Eastern oil supplies. These statistics are supposed to be military secrets, though it is common knowledge that homeowners are short of oil.

Best figures on current supply and demand are the January forecast of the Petroleum Industry War Council, indicating a daily deficit of 203,000 bbls. in February and 45,000 bbls. in March. Total eastern daily demand, estimated before the ban on pleasure driving and the drastic cuts in fueloil use was believed to be:

	Feb.	*Mar.*
Gasoline	483,000	476,000
Kerosene	145,000	134,000
Distillates	355,000	314,000
Residuals	318,000	313,000
Other Products	107,000	115,000
To other Districts	21,000	21,000
Total Demand	1,429,000	1,373,000

Supplies of petroleum products, based on available transportation is estimated in barrels per day at:

	Feb.	*Mar.*
Local Production	80,000	78,000
Tank car	780,000	875,000
Pipe line	189,000	190,000
Barge & Lake tanker	107,000	106,000
Ocean Tanker	70,000	70,000
Total Supply	1,226,000	1,319,000

PIWC points out that rationing has not reduced fueloil demand to the extent originally estimated by OPA. Each 10% reduction in the value of coupons is expected to cut the demand about 40,000 bbls. a day, but there is no estimate of the reduction in demand to be expected from the 25% cut in commercial heating and the 40% cut in industrial uses.

Though pressure continues to convert all possible installations to coal, the solid fuel supply in the Northeast is little better than oil. All the brave boasts of ample coal supplies have come to nothing as supplies have dwindled.

Gen. Brice P. Disque, assistant deputy solid fuels coordinator, has issued orders to retail coal dealers to deliver fuel only to those who have less than 10 days' supply, in view of the coal shortage. The 23-day anthracite strike cut into coal production severely, but anthracite officials claim that the industry can produce its quota in 1943. Customers are not so sure.

Homeowners are talking. Those who burn oil are skeptical about conversion, now or at any future time. The talk is that "the Government can't control the unions, and the unions can't control the miners." Present oil users seem content to take their chances on available transportation for their oil supply.

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ASH&VE Elects Officers

THE NEWLY ELECTED OFFICERS of the American Society of Heating and Ventilating Engineers for 1943 were installed at the 49th Annual Banquet, held at Hotel Gibson, Cincinnati, January 26. They are: President, M. F. Blankin, Philadelphia, Pa.; First Vice-President, S. H. Downs, Kalamazoo, Mich.; Second Vice-President, Prof. C. E. A. Winslow, New Haven, Conn.; Treasurer, E. K. Campbell, Kansas City, Mo.; and for Members of the Council elected for Three-Year term are: John F. Collins, Jr., Pittsburgh, Pa.; Prof. James Holt, Cambridge, Mass.; E. N. McDonnell, Chicago, Ill.; and Lt. Comdr. T. H. Urdahl, Washington, D. C.

The membership elected 5 members of the Committee on Research for Three-Year term, as follows: H. J. Rose, Pittsburgh, Pa.; L. P. Saunders, Lockport, N. Y.; Prof. L. E. Seeley, New Haven, Conn.; Comdr. A. E. Stacey, Jr., Washington, D. C.; and C. Tasker, Toronto.

◈

Edward T. McCormack, vice-president in charge of sales for Pierce Butler Radiator Corp., Syracuse, N. Y., died of a heart attack in Washington, D. C., January 14, aged 52.

I-B-R Research

Boiler Heating for Fuel Conservation

WITH WARTIME CONDITIONS highlighting the importance of fuel conservation and over-all heating plant efficiency, manufacturers of boilers and radiators have renewed their contract with the University of Illinois for the continuation of the research program in hot water and steam heating.

The renewal of the contract assures the continuation of The I.B.R. Research Program at least until June 30, 1944. The program is dedicated to the economic and technical improvement of hot water and steam heating.

During a time when research activities by individual companies are necessarily curtailed by their participation in the war program, cooperative research such as that carried on by boiler and radiator manufacturers assumes increasing importance.

The continuation of the I-B-R Research Program during the war period will assure the steam and hot water heating industries of a post-war fund of data resulting from the uninterrupted study of steam and hot water heating plants.

The I-B-R Research Program was begun in 1940 when a group of 13 manufacturers of boilers and radiators who are members of the Institute of Boiler and Radiator Manufacturers signed a contract with the University of Illinois for a three-year research program in hot water and steam heating.

The contract provided for the construction of the I-B-R Research Home at Urbana. This house, a six-room brick veneer structure, was completed late in 1940 and was dedicated May 23, 1941.

Described as the most completely equipped laboratory house in the world for the scientific study of the efficiency of heating plants under actual operating conditions, as well as the effect of various heating systems on environment and comfort, the I-B-R Research Home is an important factor in the development of better heating through research.

In the construction of the Research Home, more than eight miles of fine wire were imbedded into the walls. This wire connects approximately 200 thermocouples and 80 moisture indicating points with automatic recording instruments.

Each day during the heating season more than 600 readings are taken in the I-B-R Research Home by the staff of research engineers—readings that will help to establish new standards of health and comfort for users of hot water and steam heating.

The heating system in the I-B-R Research Home is typical of many which were being stalled in low cost homes before the war. It is a standard hot water boiler fired with an oil burner. The radiators are located on two circuits through which the water is forced by a pump. Free-standing cast iron radiators are recessed in the walls.

In the construction of the house the I-B-R Research Advisory Committee recognized the fact that comfort and economy cannot be had by simply installing a heating system of excess capacity to care for deficiencies in the structure. As if anticipating the present fuel crisis, the committee specified a well-insulated house.

The walls are insulated with 3⅝ inches of mineral wool protected on the inside with a vapor barrier of glazed asphalt paper. All windows are weather stripped. The ceiling of the second floor is insulated with mineral wool.

Among the outstanding facts developed by the studies carried on in the Research Home are: The cost for heating the six-room house for an average heating season in Urbana is about $70; temperature variations can be held to less than one degree with the forced circulation hot water heating system now being tested; and there is only a temperature difference of two degrees between the room and wall surfaces when the outside temperature is 13 degrees F.

Data have also been obtained on the comparative efficiency of the boiler when operated with and without a flow control valve. While the boiler was designed to require 24-hour operation of the burner at 10 degrees outdoor temperature, results indicate that approximately 10 hours of operation will provide adequate heat for this extreme condition.

Of particular value in view of the present need for fuel conservation are the findings on thermostat settings.

Tests were conducted with the thermostat set at 72 degrees from 5:30 A.M. until 10:00 P. M. and at 66 degrees from 10:00 P.M. until 5:30 A.M. The results indicate that the drop in temperature of 6 degrees at night effects a saving in fuel of from 8 to 10 percent.

Estimates based on results of tests indicate that a seasonal fuel saving of about 13 percent can be effected by operating

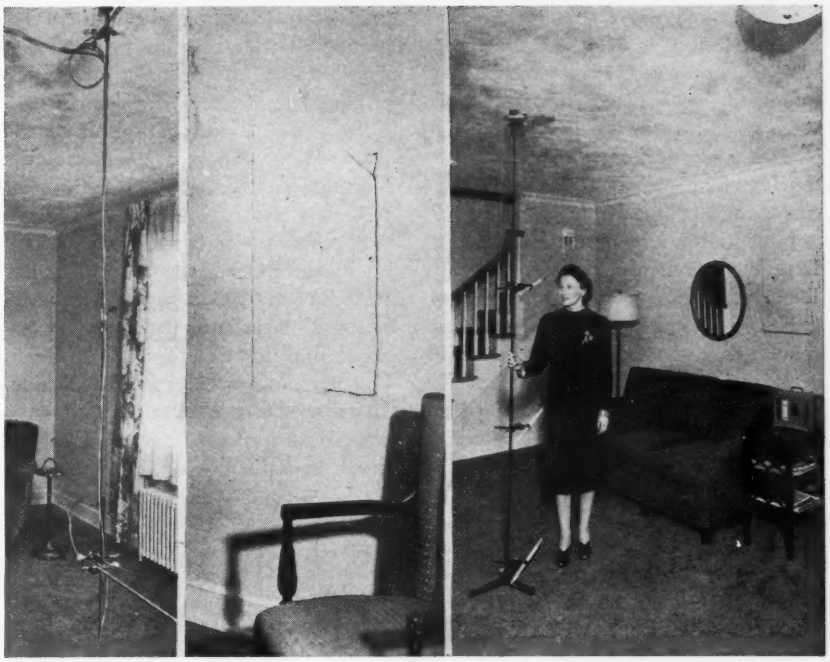
24 hours a day at an indoor temperature of 66 degrees F instead of 72 degrees. This is a saving of more than 2 percent per degree reduction in indoor temperature.

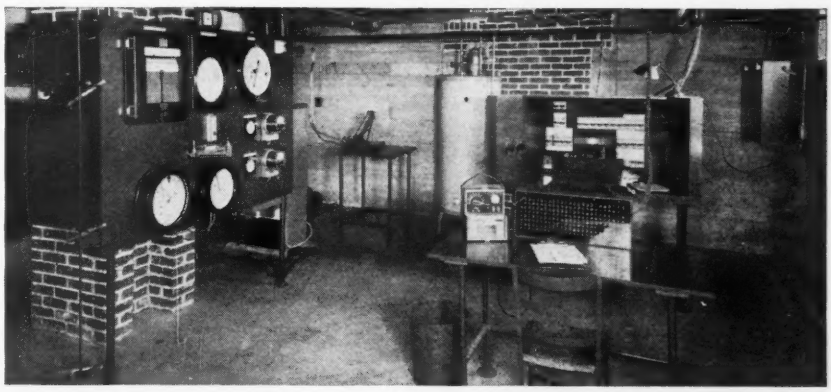
The rapidity at which the indoor temperature drops at night depends on the severity of the outdoor temperature and the construction of the house. Because the I-B-R Research Home is thoroughly insulated, the drop in temperature at night is less rapid than it would be in a house not so well constructed.

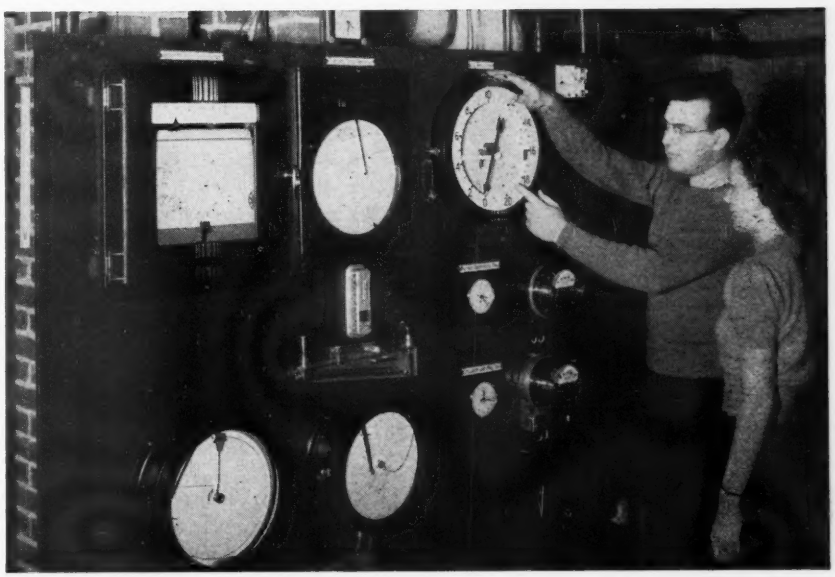
It was found that, during mild weather, the indoor temperature did not go down to 66 degrees after 10 o'clock at night and consequently the circulator, which forces hot water from the boiler to the radiators, did not go on during the entire period from 10 o'clock in the evening to 5:30 in the morning.

The contract between boiler and radiator manufacturers and the University of Illinois provided not only for the continuation of studies in the I-B-R Research Home, but also for the continuation of use of the supplementary research facilities of the Engineering Experiment Station and the School of Medicine.

It is believed that the correlated facilities for research provided by this arrangement have no equal anywhere.







PHOTOGRAPHS

Page Opposite. *The I-B-R research home at University of Illinois. Walls are brick veneer with full mineral wool insulation. Present heating is circulating hot watet from 3-section cast iron oilfired boiler.*

Upper Right. *Recording thermometers, thermocouples in walls, four-level thermometers, and humidity recorder (on stand at right). The interested observer is Miss Mildred Brennan of the Plumbing & Heating Industries Bureau.*

Center. *In the basement are automatic recording instruments on panel at left, thermocouple reading equipment in right background, and moisture reading instruments in foreground.*

Lower. *R. J. Martin, research assistant, explains to a future home-maker how the imposing array of instruments reveals secrets for better living comfort.*

The research program under way during this heating season was developed with the primary objective of obtaining information which will have practical value in meeting the problems arising out of the necessity for conserving critical materials used in heating installation and the conservation of fuels.

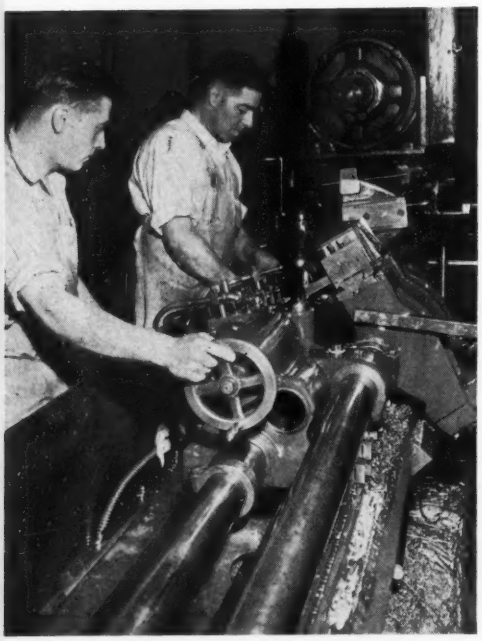
In the laboratory of the Engineering Experiment Station of the University of Illinois studies are now being made of the fluid pressure losses through radiators and convectors with water at various temperatures and velocities. Heat transmission studies are also under way. The data now being obtained will be of value in advancing the accuracy of design of gravity and forced circulation hot water heating systems. Accuracy of design should lead to the reduction in the size of pipes and radiators, and first costs.

The I-B-R Research Program at the University of Illinois is sponsored by the following members of The Institute of Boiler and Radiator Manufacturers:

Burnham Boiler Corporation, Columbia Radiator Company, Crane Co., The Eastern Foundry Company, International Heater Company, Kohler Co., The National Radiator Co., The H. B. Smith Company, Inc., Spencer Heater Division, Thatcher Furnace Company, United States Radiator Corporation, Utica Radiator Corporation, Weil-McLain Co.

War Work Claims Half of Industry's Plant Capacity

OILBURNER MANUFACTURERS are making a considerable contribution to war production for the size and capacity of the industry. Few manufacturers had large or well equipped manufacturing plants that were capable of doing general machine work a year ago. Most were assembling plants that had limited machine capacity, and this mostly incapable of close tolerances required in so many war production jobs. Yet, slightly less than 60% of the oilburner manufacturers now are doing war work.



At the end of December, FUELOIL & OIL HEAT surveyed 49 oilburner manufacturers, both large and small, and found 29 in production for war. Twenty of the plants surveyed, or 40.8% were doing only civilian work locally, or had virtually suspended operations for the duration.

Of the 59.2% of oilburner manufacturers in war production, 44.9% had prime contracts, and 93% had subcontracts, either solely or in addition to their prime contracts. Only 15.4% were working exclusively on prime contracts.

War production last year accounted for 86.8% of the total production of the plants engaged, and 51.3% of the industry's plant output. This record is surprising in view of the fact that most plants were not converted to war work before the end of last July.

War orders booked at the first of the year will occupy 54.4% of the plant capacity of those who have converted, though only 65.5% of the individual manufacturers at the end of the year had contracts for any part of their production capacity in 1943. Those who had contracts for 1943 were booked for 72% of their plant capacity, though this represents only 27.7% of the plant capacity of all the companies surveyed.

Production for war uses does not necessarily indicate a complete change-over to unfamiliar manufacturing, since the companies with war contracts are doing 11.5% of their war production in oilheating. There is no way to estimate at this time what proportion of the 1943 war production may be in oilheating.

There has been an increase of 94.4% in the factory personnel during the last year and a half among the companies surveyed. This increase is due largely to the rise in the number of workers in large plants. There has been very little change in the number of employees among small manufacturers. Few have been in position to greatly increase their total plant capacity by the addition of new machines, and therefore are now employing about the same men to produce for war that they employed to produce oilburners.

The survey did not attempt to cover manufacturers of accessory equipment and oilburner parts. If these plants were included in the contribution the industry is making to war production it probably would increase the oilburner manufacturers' total by 300%. Few accessory companies formerly produced exclusively for the oilheating business. It would be impossible to determine their exact present contribution to the war effort that formerly went to the oilheating industry.

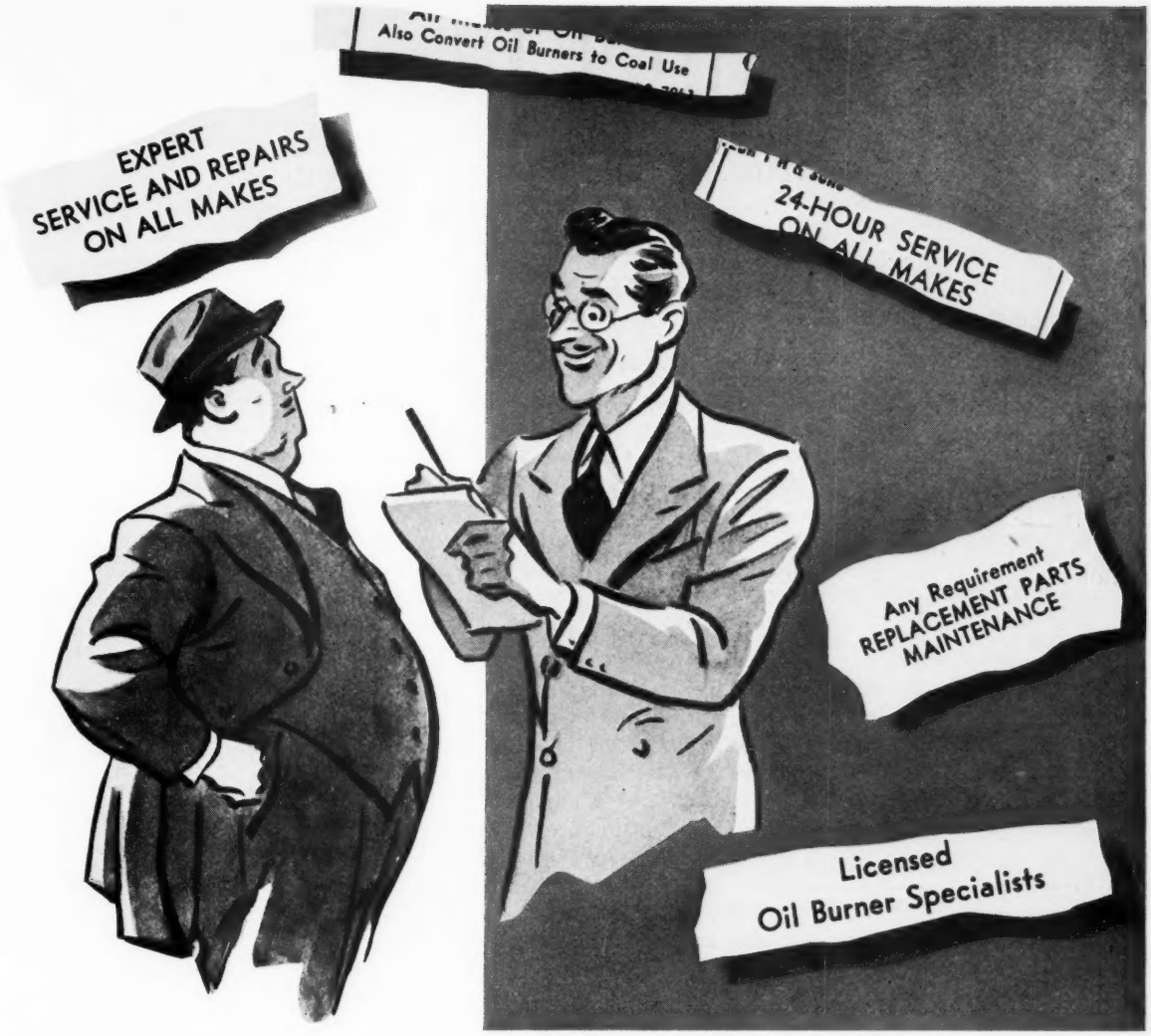
Stove Ration Amendment 1 Permits Use as Axuiliary

UNDER AMENDMENT 1 to Ration Order No. 9, coal heating stoves may now be bought and installed to supply auxiliary heat in homes having oilfired central heating plants without the applicant having to surrender any of his fueloil ration coupons.

As the value of fueloil ration coupons in some Eastern States has dropped from 10 to 9, and then to 8 gallons for Period 4, the Rationing Division realized that in some homes it would be necessary to supplement oilheating with stoves.

To assist the stove program the War Production Board will permit unrestricted use of iron and steel in their manufacture during February and March, under provisions of Order L-23-D, as amended.

Donald P. Mossman, Inc., Chicago, has published General Data Bulletin No. 82, describing their new O-42 Lever Switch.


Also Convert Oil Burners to Coal Use
EXPERT SERVICE AND REPAIRS ON ALL MAKES
24-HOUR SERVICE ON ALL MAKES
Any Requirement REPLACEMENT PARTS MAINTENANCE
Licensed Oil Burner Specialists

Helping advertisers get more results from the CLASSIFIED TELEPHONE DIRECTORY

When prospects refer to the Classified, what statements in the advertising are most likely to make them customers?

To get the answer, house-to-house surveys have been conducted over a period of years throughout the country.

Thousands of people who consulted the Classified section of the Telephone Directory on various occasions were asked what information in the Classified attracted them to certain concerns' advertising. The phrases reprinted above are among those frequently pointed out.

A Directory Advertising Representative can help you prepare a Classified advertisement that should be most profitable. Call him through the business office of your telephone company.

Fueloil & oil heat

Welding Oil Tanks

You Must Clean Them Thoroughly

Time and the increasing shortage of steel may make it necessary to mend many oil tanks before the war is won. Though it is not difficult to weld a tank, to do it safely requires careful preparation of the tank.

A recent issue of "Oxy-Acetylene Tips," the house organ of The Linde Air Products Co., New York, contains an article on this preparation that is the basis of the article that follows

NO SENSIBLE PERSON would think of using a lighted match to see how much gasoline there is in a tank. The explosibility of gasoline vapor mixed with air is too well known. Yet many individuals frequently do something just as hazardous when they attempt to weld or cut containers that have not been thoroughly cleaned of flammable materials.

Explosive mixtures may occur in a container in a number of ways. They can form easily when the container has held oil, which gives off vapor that is explosive when mixed with air or oxygen in certain proportions.

Suppose, for instance, that a 50-gal. drum emptied of gasoline is to be made over into an open-top container. To start with, the drum is sure to contain a certain amount of vapor mixed with air, for in emptying a drum, air must be admitted to take the place of the fluid withdrawn. Tests have shown that gasoline vapor in air will explode if the mixture contains 1.3 to 6 per cent of gasoline vapor. Even if the percentage of gasoline vapor is not within this range of explosibility, an explosive mixture may be present at some stage of cutting the head out of the drum. The slightest spark from a chisel or a flame from a cutting blowpipe will ignite the mixture. Obviously the only safe practice is to make certain that an explosive mixture cannot form.

Liquids and solids, such as kerosene, oil, and grease, will under certain conditions also give off vapors that will form explosive mixtures with air. Usually the application of heat will cause vapor to form. This can easily happen if welding or cutting is done on a container not thoroughly cleaned of oil, grease, and similar materials.

Cleaning is best done in the open where the flammable vapors that escape will quickly blow away. If the cleaning must be done inside a building, make proper arrangements for forced ventilation so that flammable vapors will not accumulate and create a hazard.

Drain or empty out as much of the material remaining inside the container as possible, since this will greatly shorten the time needed for the other cleaning operations. Sludge and sediment can sometimes be removed by scraping or, in some instances, by putting a *brass* chain inside and rotating the container. Hammering with a *wooden* mallet may help to loosen scale. Never use iron or steel chain, chisels, scrapers, or hammers, for they are likely to cause sparks. Immediately dispose of any materials cleaned out so as not to have hazardous substances near the work.

Containers that have held materials that vaporize readily—gasoline, for example—are often cleaned by the live-steam method. They can also be cleaned by the hot chemical solution method.

Oil and grease are more readily removed by the hot chemical solution method. The lighter oils are sometimes cleaned out with live-steam, followed by a hot chemical solution rinse.

Hot Chemical Solution Method

It is well known that certain chemical compounds such as sodium silicate or tri-sodium phosphate, when dissolved in water, will "cut" oil, grease, and similar products. Then when the solution is flushed or drained away, a portion or all of the oil or grease goes along with it, depending on the strength of the chemicals in the solution and the amount of oil or grease present. Hot solutions "cut" much better than cold ones.

To clean the container, proceed as follows:

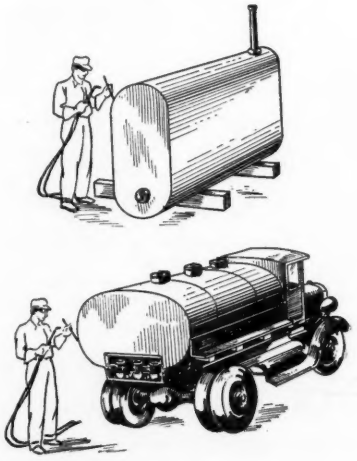
1. Goggles, gloves, and other protective covering may be needed to guard against injury from steam or chemicals. Take all necessary steps to guard against these hazards.

2. Close all openings in the container with the exception of the connection at the bottom for draining and one at the top for filling. Damp asbestos, wood flour, or a similar material may be used for sealing cracks or other damaged sections to be repaired.

3. Fill the container with water until it overflows. Flush thoroughly, preferably by forcing water in through the drain connection. This will cause any remaining liquid, scum, or sludge that will float on water to be carried up and out of the filling connection or vent. If no drain connection is provided, flush by putting a hose through the filling connection or vent.

4. Thoroughly drain the container.

5. For every gallon that the container will hold, provide from 2 to 4oz. of sodium silicate or tri-sodium phosphate (if steam cannot be obtained for keeping the solution hot, use 6oz.). Completely dissolve the chemical in small quantities of boiling water and pour inside. Then fill the



To Preserve
Our Way of Living
We Must Change
Our Way of Living

☆ We Americans believe in our way of life, and we are fighting to maintain it. But in order to preserve that way of life we must adapt ourselves to the hard realities of today.

Sometime ago you profited by selling oil burners to your neighbors. Today oil burners are not available, and fuel oil, because of transportation difficulties, is available only in limited quantities. So in order to preserve your way of living you must change your way of living.

Today your most important commodity is service. Your customers are striving to make every drop of their limited fuel supply give maximum warmth. It is to your profit to keep those burners operating at top efficiency—a service to your customers, to yourself, and to the industry.

Webster Electric Company has been doing and shall continue doing everything in its power to help you service your customers. Webster Electric Authorized Service Stations, located strategically, are prepared to supply replacement parts with which the efficiency of Webster Electric equipped oil burners can be maintained. They also stock Fuel Units and Ignition Transformers for replacement where it is necessary.

Take advantage of the benefits offered you by the Webster Electric Authorized Service Station near you as listed below. By helping your customers now you are helping yourself and the industry as a whole to a great and profitable future.

WEBSTER ELECTRIC COMPANY, Racine, Wisconsin, U. S. A., Established 1909. Export Dept.: 100 Varick St., New York City. Cable Address: "ARLAB" New York City.

WEBSTER ELECTRIC SERVICE STATIONS AND SALES REPRESENTATIVES

Ignition Transformers, Fuel Units, and Parts

California, Los Angeles	Garland-Affolter Engr. Corporation	124 W. 4th Street	Sales Representative
California, San Francisco	Garland-Affolter Engr. Corporation	Rialto Building	Sales Representative
Connecticut, West Hartford	Bell Pump Service Company	100 Park Road	Service Station
Illinois, Chicago	Braun Bros. Heating Supply Company	3146 W. Chicago Avenue	Service Station
Illinois, Winnetka	Braun Bros. Heating Supply Company	812 Oak Street	Service Station
Iowa, Des Moines	Delavan Engineering Company	414—12th Street	Sales Representative
Maryland, Baltimore	R. E. Michel Company	1011 Greenmount Avenue	Service Station
Massachusetts, Cambridge	Cronin Supply Company	60 Broadway	Service Station
Massachusetts, Malden	E. L. Kimball Company	25 Lynde Street	Service Station
Massachusetts, Waltham	Cronin Supply Company	157 High Street	Service Station
Massachusetts, Wollaston	W. S. Plummer	109 Lincoln Avenue	Service Station
Michigan, Detroit	Wm. G. Boales Company	6429 Hamilton Avenue	Service Station
Minnesota, St. Paul	Thermal Company, Inc.	2448 University Avenue	Service Station
Missouri, St. Louis	Brass & Copper Sales Company	2817 Laclede Avenue	Service Station
New Jersey, Elizabeth	Certified Fuel Unit Service Company	600 Spring Street	Service Station
New York, Albany	Certified Fuel Unit Service Company	1018 Central Avenue	Service Station
New York, Brooklyn	Eveready Specialties Company	1724 Flatbush Avenue	Service Station
New York, Brooklyn	The Capson Company	106 Rogers Avenue	Service Station
New York, Jamaica	Sid Harvey, Incorporated	138-76 Queen Boulevard	Service Station
New York, Valley Stream	Sid Harvey, Incorporated	104 E. Mineola Avenue	Service Station
Oregon, Portland	Garland-Affolter Engr. Corporation	1233 N. W. 12th Avenue	Sales Representative
Pennsylvania, Philadelphia	Certified Fuel Unit Service Company	3412-14 W. Allegheny Ave.	Service Station
Rhode Island, Providence	Providence Plumbing Supply Company	47 Pine Street	Service Station
Washington, Seattle	Garland-Affolter Engr. Corporation	532 First Avenue South	Sales Representative

WEBSTER ELECTRIC

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Fuel oil & oil heat

container with hot or boiling water. If this is not available, use ordinary tap water.

6. Make a steam connection to the container either through the drain connection or by a pipe which enters through the filling connection or vent and leads to the bottom of the container. Turn on steam and maintain the solution at a temperature of from 170 to 190 deg. F. Occasionally, turn enough water into the container to cause an overflowing of any volatile liquid, scum, or sludge that may have collected near the top of the solution. Continue steaming until there is practically no scum or sludge when you cause the tank to overflow.

7. Drain the container.

8. Inspect the inside of the container to see if it is clean. This may be done by using a mirror to reflect light into the vessel. For a light, use only an electric lantern or flashlight that is approved for use with flammable gases. If examination shows that the container is not clean, it should again be cleaned with the hot chemical solution.

9. As a matter of precaution, a sample of gas from the container should be tested for flammability.

Live-Steam Method

The steaming method is suitable for removing gases and liquids that are readily volatile. Live-steam is circulated through the container until it is thoroughly heated. When this stage is reached steam vapors will flow freely out of the vent and will carry along any volatile substances that have remained in the container. Take the following steps in steaming a container:

1. Make sure you have suitable clothing, such as boots, hood, goggles, and gloves for protection against burns from steam or hot water.

2. First thoroughly flush the container with a hot soda or soda ash solution. Use 1 lb. of caustic soda for each gallon of water and fill the container at least one-quarter full. Roll or tip the container over and over enough times to make sure that the interior has been thoroughly covered. Then drain the container and if necessary flush several times to get out all scum and sludge that may have accumulated.

3. Close all openings in the container except for the drain and filling connections or vent. Use damp asbestos, wood flour, or a similar material for sealing cracks or other damaged sections that are to be repaired.

4. Prepare a line connected to a source of low-pressure steam. The steam line into the container should be steam hose of not less than ¾ in. in diameter, without valve and preferably without a nozzle at the free end. A metal nozzle should never be used unless it is of non-sparking material such as brass or bronze. If a metal nozzle is used, ground it to the container. Also ground the container itself to prevent the possibility of sparks from static electricity. A valve for controlling the flow of steam should of course be provided between the hose and steam line.

5. Blow live steam into the container, preferably through the drain. Do not steam a container that has only one opening unless the opening is of good size.

6. Continue steaming until the container is hot enough to permit steam to flow freely out of the vent or other opening, and until the container is free from odor. In some instances steaming may take several hours, especially during cold weather.

7. Thoroughly rinse out the container with boiling water.

8. Examine the inside of the container to see if it is clean. This may be done by using a mirror to reflect light into the vessel. For a light, use only an electric lantern or flashlight approved for use around flammable gases. If the container is not clean, blow in live steam again for a suitable length of time and rinse out with boiling water. A hot soda or soda ash solution may be used for one of the rinsings if desired. Continue steaming and rinsing until inspection shows that the container has been thoroughly cleaned.

9. Test the air inside the container to see if it is free from flammable gas.

Additional Safeguards

Even though the container has been washed out, steamed, or treated with hot chemical solutions, it is best to take certain additional precautions. This is especially advisable if there are joints or seams that might release explosive vapors when they become heated during welding or cutting. The reason for this is that thorough washing, steam, or chemical treatment will not always completely remove materials that may have seeped into crevices between metal surfaces.

Accumulation of any large volume of explosive gas from seams is prevented by filling the container with water as full as possible without interfering with the welding or cutting or other work to be done. The air remaining above the water is then partly or entirely replaced with an inert gas such as carbon dioxide or nitrogen. This will help to prevent the ignition of explosive gases that might be driven out of seams and joints by the heat of welding or cutting. The more the water that can be put into the container, the less the carbon dioxide or nitrogen that will be needed.

Carbon dioxide is widely available and is the inert gas most often used. The procedures to follow will therefore be based on carbon dioxide. If nitrogen is used, the volume must be at least 10 per cent more than the volume specified for carbon dioxide.

Final Arrangements

The final steps to take before doing any welding or cutting are as follows:

1. If it is possible to move the container, place it in a position by tilting and blocking so that the spot to be worked on is at or near the top.

2. Fill as full as possible with water without interfering with the work to be done.

3. Put a sufficient quantity of carbon dioxide into the container so that at least 50 per cent of the air in the space above the water will be displaced. (Hydrogen or carbon monoxide requires a minimum concentration of 80 per cent carbon dioxide to make a mixture with air nonflammable and non-explosive. If you suspect that these gases are present, play safe and increase the carbon dioxide content to 80 per cent or more.)

There are several different ways in which the proper carbon dioxide concentration can be obtained, depending on the construction of the container, and on whether carbon dioxide gas compressed in cylinders or soldified carbon dioxide, commonly called "Dry Ice," is to be used. These methods will be described separately.

(a) The easiest way to get a high carbon dioxide concentration is to let in carbon dioxide from a cylinder as water is drained out to the level desired. This can be done only with containers provided with inlets and drain connections, that can otherwise be sealed to exclude air.

A Wartime Offer
from
Fluid Heat

To dealers who do not distribute or service the Fluid Heat Line

Here is a real wartime opportunity for alert oil burner dealers—a chance to *increase* your service business, make up for lost equipment sales! Because of the war, some Authorized Fluid Heat Dealers have closed shop: one is now fighting the Japs at Guadalcanal—others are doing their part in the Army or Navy—and others have gone into war work with war plants and government agencies. As a result we have received numerous requests from other dealers for Fluid Heat service information.

So—if at present there is no authorized Fluid Heat Dealer in your territory, we'll be glad to send you the Fluid Heat Installation and Service Manual, together with complete Price List of replacement parts; and we'll give you the privilege of buying these parts under the usual priority regulations at standard dealer prices.

We are making this information available in order to cooperate with the war effort and "keep the home fires burning" in all Fluid Heat homes. We have always believed that our responsibility as manufacturers does not end when a Fluid Heat installation is made. And now as always we are doing everything we can to help Fluid Heat customers take care of their equipment.

This offer applies to the complete Fluid Heat line of Oil Burners, Water Heaters, Air Conditioning Furnaces, and Burner-Boiler Units. As you know, Fluid Heat is one of the leaders of the oil burner industry . . . the originator of many burner improvements . . . a pioneer in the low-cost burner field that will be the big money market after the war. Just send us your firm name and address, and if our records show that there's no Authorized Fluid Heat Dealer in your territory we'll send you the Manual and Price List. First come, first served in each territory, so write at once. Address: HEATING DIVISION, Anchor Post Fence Co., 6702 Eastern Ave., Baltimore, Md.

fluid heat
OIL BURNER

Carbon dioxide is permitted to flow in through the inlet while water comes out the drain connection. Practically all the gas inside the container will be carbon dioxide provided there were no air spaces inside at the start. Before starting to do any welding, cutting, or other hot repair work on the container make sure that any pressure that might be built up inside the container will be released through the inlet, open vent, or safety valve.

(b) When vent and drain connections are not both present, let in carbon dioxide through a hose, the open end of which has been shoved as close to the bottom of the container as possible. Since carbon dioxide is heavier than air, it will tend to displace the air as it rises and flows out the vent. About half the carbon dioxide will be wasted, by flowing out the vent along with the air being displaced, before the concentration inside is up to 50 per cent. (To estimate the volume of carbon dioxide let into the container, weigh the carbon dioxide cylinder before and after withdrawing gas and calculate the volume withdrawn by figuring 8½ cu. ft. of gas for each pound. If nitrogen is used, calculate on the basis of 13.7 cu. ft. per lb.) Calculate the volume of the air space remaining in the container over the water level and let in at least an equal volume of carbon dioxide. Then to make sure you have the proper concentration of carbon dioxide, analyze samples chemically by means of approved gas analysis apparatus.

Using "Dry Ice"

(c) If solid carbon dioxide is to be used, crush and put into the container enough of it to produce a volume of carbon dioxide gas equal to the air space above the water level. (One pound of solid carbon dioxide will evaporate to make 8.7 cu. ft. of gas at atmospheric pressure.) *Leave the vent or connection at the top of the container open so that pressure cannot build up inside.* Then analyze samples of the gas mixture inside the container for carbon dioxide by means of approved gas analysis apparatus. If the concentration should be found to be below 50 per cent by volume, add more carbon dioxide and test again.

4. When the carbon dioxide concentration is found to be safe enough for the work to be done, proceed with welding or cutting or other repair work. Maintain high carbon dioxide concentration at all times by continuing to let in gas at low pressure if carbon dioxide is supplied from cylinders. If solid carbon dioxide is being used, add an excess and if necessary drop in small lumps occasionally. These will vaporize while work is going on and will help keep up a high concentration. Make sure that there is an open vent so gas will escape and not build up pressure.

5. Avoid bodily contact with solid carbon dioxide. Its temperature is extremely low and if held in contact with any part of the body for more than a few seconds it is likely to cause painful injuries resembling burns. It is also important to avoid breathing large amounts of carbon dioxide.

Always keep the face and arms away as far as possible from the head of the container when doing any welding or cutting. Generally the head will give way during an explosion rather than the cylindrical portion of the shell. It will also be wise to make any repairs or alterations on the sides before working on the head.

Testing Gas for Flammability

The air or air-gas mixture inside any container can be most easily tested for a flammable or explosive mixture by using a suitable gas detector. Various types of these detectors are widely employed by gas companies and oil refining companies for safeguarding life and property where there is a possibility that explosive and toxic gases will be encountered in repair and maintenance work.

If a gas detector is not available, a gas sampler can be used. Essentially it consists of a small rubber bag, which is filled with gas from inside the container, then taken to a safe place, and an attempt made to burn the gas as it is forced from the rubber bag and through a flame arrestor. If the gas does not ignite or flash back, the container may be considered as safe for welding or cutting operations.

How to Operate Gas Sampler

1. Take and test separately several samples from different levels of the container.

2. Squeeze and release the bulb several times before attaching the bladder to displace all air in the tubing and bulb with gas from the container.

3. Completely deflate the bladder and connect it to the free end of the bulb.

4. Operate the bulb to fill the bladder to a pressure sufficient for testing the gas.

5. Seal the bladder from the rest of the apparatus with the clamp and disconnect it from the bulb.

6. Connect the nozzle and flame arrestor to the bladder.

7. At a safe distance from the container, apply a flame to the tip of the nozzle, and release the clamp. If the gas tends to ignite or flash back there is a flammable or explosive mixture in the container.

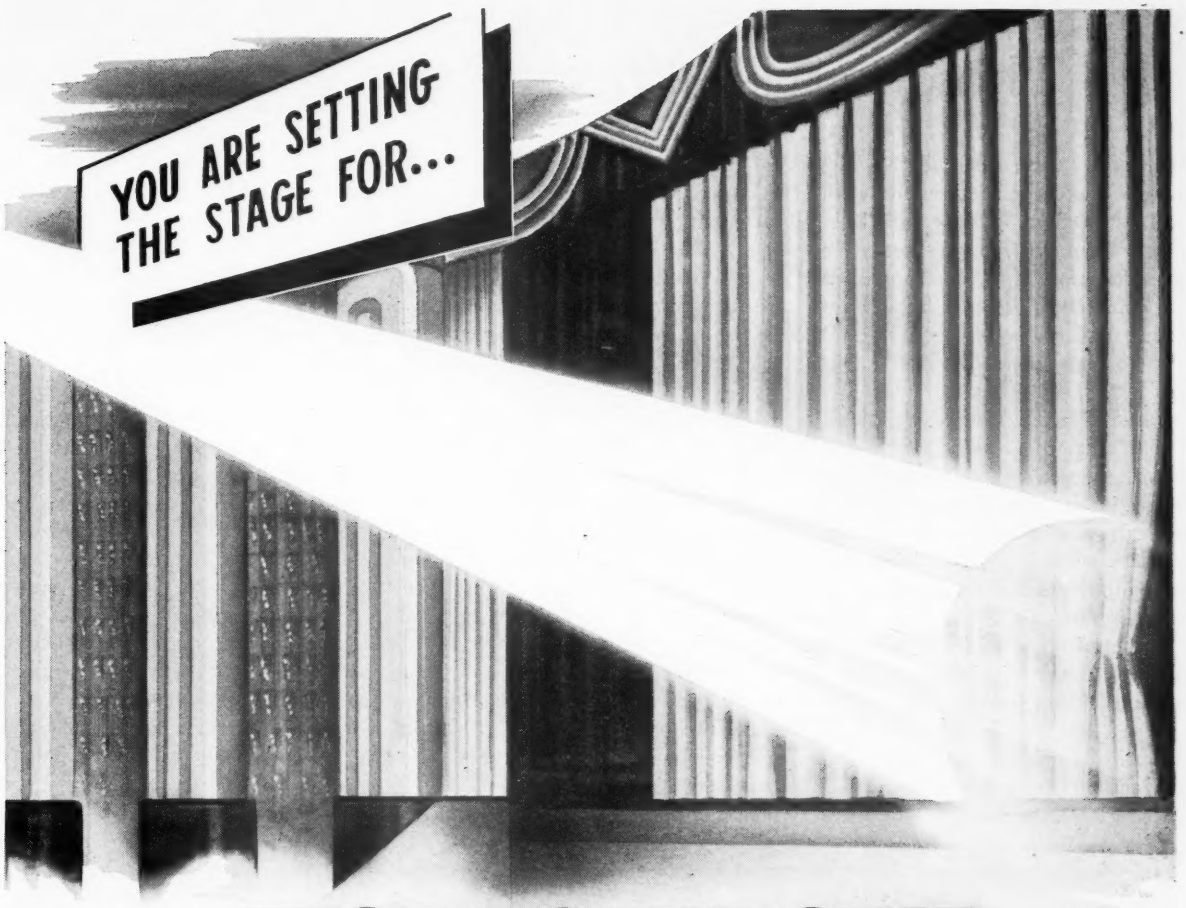
Mass. Oil Heating Assn. Elects Officers for 1943

OFFICERS OF THE MASSACHUSETTS Oil Heating Association for 1943 were elected at the monthly meeting, Jan. 12, as follows: President, Ray E. Eldridge, Framingham; vice president, Orodon S. Hobbs, Malden; secretary-treasurer, Fred N. Beckwith, Boston; directors: Clarence L. Vanderwarker, Taunton; Herbert S. Carragher, Lowell; Earle S. Chapin, Reading; Wat Tyler, Cambridge; Alfred W. Barr, Watertown; Walter C. Crooker, Boston.

The directors appointed the following regional vice presidents, who are empowered to call regional meetings to consider purely local problems which would not come before the state association. These are: Thomas J. Reagan, New Bedford; Donald B. Clark, Worcester; John Flynn, Fall River; Harold E. Drake, Gardner.

An advisory board of past presidents was also appointed: Don J. Edwards, Boston; John S. Lordon, Brighton; J. Henry Brody, Boston; and Joseph F. Walsh, Roslindale. Mr. Walsh, the retiring president, was presented with a handsome wrist watch as a token of the members' appreciation of his work on behalf of the oil heating industry during his term of office. John S. Lordon, past president, was presented with an "award of merit" similar to those given to the other past presidents at the December meeting. Mr. Lordon was unable to attend then, because of illness. The award consists of a handsome lapel pin in a neat case, with an inscription stating what it represents.

John M. Deely, state rationing officer, OPA, was the guest speaker, giving an informal talk on the work of the rationing board, its aims and problems.



TOMORROW

You and every other oil burner dealer from coast-to-coast **are** setting the stage for tomorrow! Your service is holding the good-will of hundreds of thousands of present and former oil burner owners even under today's abnormal conditions. Holding that good-will in so emphatic a manner that a recent survey points to a possible ONE MILLION OIL BURNER SALES immediately at War's end.

That's morale-building for every member of the oil burner industry. Equally important to those resolute dealers bearing the brunt of the battle is the fact that Service today is a business, a big business—a profitable business.

Here are the facts as carried in **Fueloil & Oil Heat** for January.

Last year Free Service practically vanished—with only 2.1% of service handled on this basis . . . 70.7% of service calls were phoned in—an increase of 8.6% over '41 . . .

Service contracts increased almost 10% . . .

Average service charge, per call, jumped from $2.25 in '41, to $2.92 in 1942.

With such a picture, Oil-O-Matic dealers will find their VICTORY SERVICE PROGRAM even more valuable in '43! With its help they will do an even more effective job in setting the stage for Tomorrow!

WHETHER IT'S PRODUCT OR PLAN — OIL-O-MATIC IS FIRST!

ARMY E NAVY

War Industry's highest award—the Army-Navy "E"—flies over the Oil-O-Matic plant. The ability and experience it signifies will play a vital role in that OIL-O-MATIC TOMORROW.

WILLIAMS OIL-O-MATIC HEATING CORPORATION

BLOOMINGTON, ILLINOIS

fueloil & oil heat

Those Service Prices

SERVICE IS DEFINED officially as "any work performed for another; the work of a slave." Official Washington is looking upon oilburner service in terms of the official definition, if we interpret their rulings correctly. Frozen service prices certainly do not allow the service organization to derive much benefit from its labors.

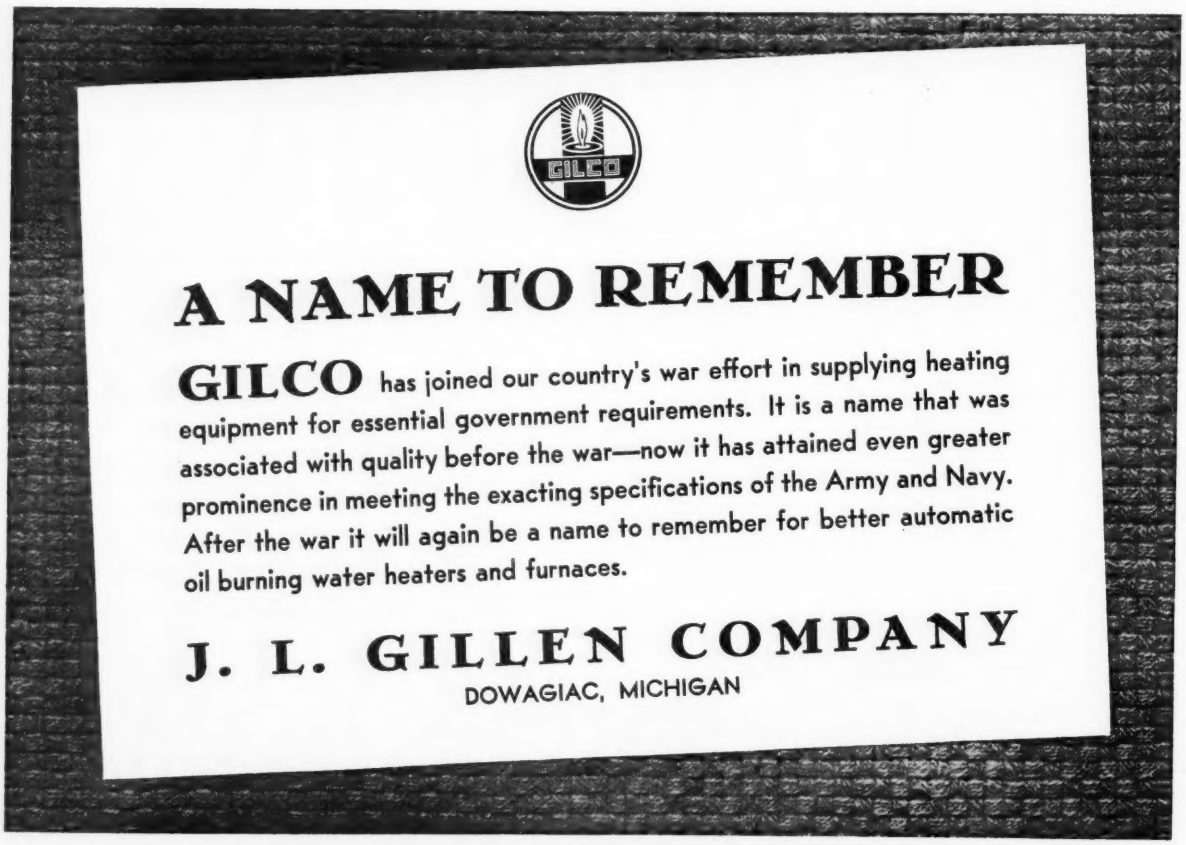
None of us can argue effectively against the idea of price control. Most of us recognize the necessity of keeping price increases in line, and allowing increases grudgingly, when necessary. But with income static while the costs of doing business and the costs of living creeping forward, even slowly, it is hard to remember the broad, general principles of price control. In fact, the principles usually get side-tracked in the interest of staying in business.

Though the price of service increased slightly during 1942 compared with 1941, it is likely that the increase took place before the ceiling was set at March levels. All prices were on the increase during the early part of the year. This increase now stands at 3.75% for service contracts, up to $16.60 in 1942, against $16.00 in 1941. Department of Labor statistics show food prices, for instance, have increased more than 9% since service price ceilings were set.

The importance of service charges in the oilheating business is considerably greater than in most other industries which Washington had in mind when the ceiling was fixed. Service departments usually have shown a loss in normal times. They constituted a necessary expense of doing a normal oilheating business, but under present conditions the service department must pay its own way at least, and in most cases, must support the entire organization. With sales of new equipment prohibited and other income seriously curtailed, there is no possibility of an organization rendering service-at-a-loss for long. This was not the situation in March.

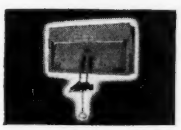
Service prices in general are regulated by Maximum Price Regulation No. 165, which provides that no service organization may charge more for any particular type or kind of service than it charged in March, 1942. However, oilburner service that was rendered in connection with the sale of oil is regulated by Price Schedule 88, covering Petroleum and Petroleum Products. It is in this category that most "free" service falls.

A recent interpretation of Schedule 88 confirms an earlier interpretation that "free" service given in consideration for signing an oil contract does not now have to be given free where dealers are not now permitted to take oil contracts. If a dealer gave free service to occasional or spot customers, he must continue to give free service, or reduce the price of his oil by the value of the service. OPA suggests that a dealer determine the value of that service by dividing the cost of the service department by the gallons of oil delivered to spot customers without contracts, and deduct the cost per gallon from the ceiling price of the oil. (*Cont. p. 30*)


GILCO
A NAME TO REMEMBER
GILCO has joined our country's war effort in supplying heating equipment for essential government requirements. It is a name that was associated with quality before the war—now it has attained even greater prominence in meeting the exacting specifications of the Army and Navy. After the war it will again be a name to remember for better automatic oil burning water heaters and furnaces.
J. L. GILLEN COMPANY
DOWAGIAC, MICHIGAN

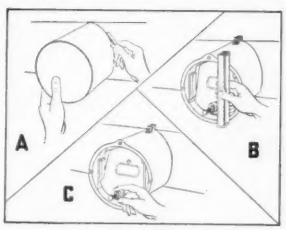
"THIS Sweater Girl..."

NEEDS A FIELD DRAFT CONTROL



Heaping on extra sweaters is ONE answer to fuel rationing. A better answer, for YOUR heating clients, is a Field Control, capable of s-t-r-e-t-c-h-i-n-g fuel 5% to 25% further. Severe fuel rationing has put SALES MAGIC into these simple words, "A Field Control keeps you WARMER on LESS fuel!" And because EVERYONE is responsible for keeping warm and well on less fuel, every home, office, store and factory is a prospect. There's real profit in each easy sale, installation usually taking less than 30 minutes for a domestic unit.

INSTALLATION'S SIMPLE AS A B C



A Hold collar snugly against stove pipe in correct position and mark outline on pipe. Snip hole in pipe ½" smaller than mark; snip slits ½" deep around hole.

B Strap collar to pipe; bend ½" slits into collar. Fasten control into collar and true control up and down and sideways by checking with carpenters spirit level for accuracy.

C Factory balanced, control requires only a simple hand adjustment for the particular installation. Set for minimum draft consistent with combustion and heat demands as required.

FIELD CONTROL DIVISION
MENDOTA, ILLINOIS
A. O. Smith Corporation

fuel oil e oil heat

Below is a reprint of an advertisement we ran in several periodicals in 1938. We thought it was timely then. We think you will agree that it is more timely now.

You Can Switch

From Oil to Coal With This Burnham Boiler

Why be tied down to a one fuel boiler when with this Burnham you can burn either oil or coal?

Admittedly there are some advantages in the Burnham Biltin Special Oil Burning Boiler and we like to sell it, knowing the economies it gives. However, should a shift to coal be desired, it would mean an entirely new boiler.

But not so with our Jacketed Conversion Burnham. All it would mean to shift from one fuel to another, is a change in the base, costing but little in comparison to a new boiler.

It has that famous Burnham long fire travel which makes its short fuel bill. Send for catalog. Get the full facts. See for yourself.

BURNHAM BOILER CORPORATION
Manufacturers of Heating Equipment Since 1873
IRVINGTON, NEW YORK ZANESVILLE, OHIO
Export Department,
110 Broad Street, New York

Burnham Boiler

BURNHAM BOILER CORPORATION
Manufacturers of Heating Equipment Since 1873
Irvington, New York Dept. O
Zanesville, Ohio Dept. O

Burnham Boiler

There is, of course, no way to make an organization stay in the service business, and this has created a sizeable problem. Too many dealers, facing rising costs, declining manpower, and mounting losses have decided to give up oilburner service, with the result that an extreme load has been put on those who remain to battle with the problems. Oilburner service, as a result, now is being rendered on a "when-and-if" time basis, with a minimum of 48 hours. Such a delay may not be serious when the washing machine breaks down, but to wait through two days of winter weather beside a dead oilburner may be extremely serious. There is little incentive for a dealer to hurry so he can lose more money.

Some dealers sought to solve the problem by rendering for the first time in their business careers long itemized bills, showing the value of each nut, bolt and fitting that had been used. The totals of these itemized bills made it possible for the organization to stay in business, though the flat service charge showed no increase.

MPR 165 now has an Amendment 12 which covers the practice of charging for service parts. Under this amendment "The term 'service' includes any commodity or article sold in connection with the sale of a particular service," and items that are subject to specific price ceilings cannot be sold at a price higher than those ceilings.

Discussing the situation with Washington price officials is a disappointing experience. They recognize the need for continuing adequate service on existing oilburners, but they contend that allowing any general rise in service prices would be inflationary. They point to the provision for relief for individual hardship cases in MPR 165.

Amendment 5 to MPR 165 provides a means of getting relief if a dealer, or group of dealers in any area can meet the requirements. This Amendment provides:

"The Office of Price Administration, or any duly authorized representative thereof, may adjust any maximum price established under this regulation in the case of any seller or group of sellers, when it appears:

"(1) That there exists or threatens to exist in a particular locality a shortage in the supply of a service which aids directly in the war program or is essential to a standard of living consistent with the prosecution of the war; and

"(2) That such local shortage will be substantially reduced or eliminated by adjusting the maximum prices of such seller and of like sellers for such service; and

"(3) That such adjustment will not create or tend to create a shortage or a need for increase in prices, in another locality, and will effectuate the purposes of the Emergency Price Control Act of 1942 as amended.

"Each regional administrator is authorized to make adjustments or act upon applications for adjustment under this paragraph."

There are the specifications. If anyone is of the opinion that he needs a better price for service he may get it if he can make those three points.

The only alternative is to pray that nobody ever questions a service charge. Customers are encouraged to police prices by a reward of three times the overcharge, or $50, whichever is greater.

Truck Pooling Deferred, May Start Next Season

AFTER FUELOIL DISTRIBUTORS in major oilheating cities spent quite a lot of time working out delivery truck pooling plans for this season, it is increasingly apparent that none of them will get under way before next Fall.

While the need for saving gasoline and tires, not to mention manpower and the trucks themselves, continues urgent, distributors found this year that the extra work brought on by rationing made it difficult to start pooled deliveries until their own individual operations are on a smoother keel, and further, ODT wasn't pushing it.

Pooling retail deliveries is a major upset to normal business operation, which is one reason pressure groups have kept it sidetracked up to now. Possibly it will never need to be started. It all depends upon Mr. Hitler's power of resistance, how long the war lasts. Going back a year to the time we got into the war, and looking forward from there, it was apparent that about half of all delivery trucks in use would be out of the picture for one reason or another in three years time.

Few dropped out in the first year, but a lot of those still rolling have reached the adrenalin stage and won't be around long. Maybe that's the best way to save truck mileage . . . let them konk out by the wayside; then the owners will have to get their competitors to haul their oil for them, or more likely the customers will relieve them of the embarrassment, and themselves go to the competitor.

The amount of mileage being wasted by smaller fueloil distributors was highlighted again a few days ago when a Washington two-truck operator disclosed details of his delivery methods and results.

His two trucks delivered last year 460,000 gallons to 260 customers. Those 260 customers were scattered over 79 square miles. In the District of Columbia fueloil men have been accustomed to analyzing their operations on a large map, having the whole District divided into mile squares. This particular distributor found that his trucks have to go into 79 of those mile squares.

Analyzing the mile squares into which these trucks go, shows that in one square are delivered 133,000 gallons, and in four other squares over 40,000 gallons each. These five squares account for more than two-thirds of the distributor's total business, while he goes into 74 additional mile squares to get the other third.

In 39 mile squares there is only one account each. The account location in squares shows:

39 mile squares	1 account each
12 mile squares	2 accounts each
9 mile squares	3 accounts each
7 mile squares	4 accounts each
2 mile squares	5 accounts each
1 mile square	6 accounts
1 mile square	7 accounts
2 mile squares	8 accounts each
1 mile square	9 accounts
1 mile square	10 accounts
1 mile square	13 accounts
1 mile square	20 accounts
1 mile square	21 accounts
1 mile square	30 accounts
79 mile squares	260 accounts

Little wonder that his overall delivery measurement shows only 15 gallons de-

ARMY
E
NAVY
THE FIRST REFINERY TO
FLY THIS FLAG
For "your fine achievement in the production of war equipment"—the Army-Navy "E" Flag floats today over Shell's Wood River Refinery . . . the first refinery so honored.
But a refinery is an inanimate thing; and a flag is but a symbol.
The citation reads: "To the men and women"—for it is men and women, the men and women pictured here, who through loyalty and devotion to duty, have done so much in building this Company and bringing to it the honor the flag symbolizes.
SHELL OIL COMPANY, INC.
SHELL

livered per mile of truck operation; his two trucks last year ran 30,000 miles.

This distributor reports that his average delivery last year was 125 gallons, again importantly below that of larger more efficient operators. The fueloil tank sizes of this distributor's customers are also reported, and are of considerable interest, not that they have bearing on his delivery efficiency, but because rarely is a tank size list available.

The tank sizes of the 260 customers are:

100 gallons	1 customer
120 gallons	7 customers
250 gallons	50 customers
275 gallons	164 customers
500 gallons	4 customers
550 gallons	27 customers
800 gallons	1 customer
1000 gallons	6 customers

It is interesting that only 63% of the tanks are of 275-gallon capacity—probably typical of the Washington area.

Timken Issues Fueloil Ration Budget Forms

ANOTHER IN THE TIMKEN wartime series of helps for oil burner users, a simplified Fuel Oil Ration Budget Form, is announced by T. A. Crawford, general sales manager of Timken Silent Automatic.

The form provides complete directions for figuring the amount of oil that can be allotted for any given ration period in any zone and is large enough for entry of the home owner's figures.

Included on the sheet is a Fuel Oil Purchase and Consumption Record which enables the burner owner to see just where he stands at the end of any ration period.

"The data and methods suggested for budgeting fuel rations are based on the actual experience of a number of oil users, including ourselves, during the first few months of fuel rationing," Crawford said. "We found that those who followed a systematic rationing plan enjoyed a great deal more comfort and avoided the distressing consequences of using too much oil early in the period.

It is the opinion of Timken dealers that, next to actual servicing of the burners, this aid in budgeting the rationed fuel is one of the most helpful wartime services the oil burner industry can perform. The new forms, now available to all oil burner owners through Timken dealers or the factory, enable the burner user to figure his oil ration budget himself.

One phase of budgeting which frequently confuses oil burner owners is the allotment of fuel to cover the heating of domestic water when oil is used for this purpose. This is provided for in the new Budgeting Form, enabling the owner to set aside enough oil to meet summer water heating requirements.

The Timken Fuel Oil Ration Budget Form closely follows another emergency aid prepared by Timken for burner users. It was a 24-page booklet entitled "How To Make Your Fuel Ration Go Further," containing practical suggestions for saving fuel.

Shell, Emerson, Westinghouse Honored with Army-Navy "E"

THE FIRST ARMY-NAVY "E" to be won by an oil refinery was presented to the men and women of the Wood River Refinery of the Shell Oil Co., Inc., at exercises held January 15. Mrs. James H. Doolittle, wife of Major Gen. "Jimmy" Doolittle, commanding American air forces in North Africa, and on leave from the Shell company, was one of the speakers.

Master of ceremonies was Thomas N. Dysart, president of the St. Louis Chamber of Commerce. The presentation was made by Col. Merle H. Davis, chief of the St. Louis Ordnance District, and by Comm. W. F. Veatch, commandant of the Sixth Naval Area. Acceptance was by Alexander Fraser, Shell's president, Robert C. Roberts, refinery manager, and Raymond H. Sanders a refinery employee.

Holding *Shell's "E" pennant is Robert C. Roberts, refinery manager, and Mrs. James H. Doolittle.*

The Emerson Electric Mfg. Co., St. Louis, was similarly honored in December when the "E" award was made to both the turret plant and the booster plant, with special recognition given to the production record of having equalled or exceeded quota in each of twelve consecutive months. Speakers included Col. A. M. Drake, Detroit, Col. Merle H. Davis, St. Louis, Commander W. F. Veatch, Navy, and W. S. Symington, president of the company.

Brigadier Gen. A. G. Gillespie, commanding officer of Watervleit (N.Y.) Arsenal, awarded the "E" pennant for production excellence to the East Springfield, Mass., plant of Westinghouse Electric & Mfg. Co. on January 21. This plant, which houses the airconditioning division, is the eighth of the company's plants to be so honored.

Lowell Thomas, radio commentator, was master of ceremonies, and John Charles Thomas, celebrated baritone, led in singing the national anthem. Speakers included Capt. Gordon C. Hall for the Navy, Lieut. Col. J. M. Colby for the Army, Leo Benoit for the employees, Governor Saltonstall of Massachusetts and Mayor Putman of Springfield.

Other firms known to oilheating men that were given the Army-Navy "E" within the past month are Buffalo Forge Co., Buffalo, and Warren Webster & Co., Camden, N. J., while the Army Ordnance Banner has been presented to L. J. Mueller Furnace Co., Milwaukee.

FINAL DATE for commercial motor vehicle tire inspections, as required by ODT Order No. 21, has been extended from January 15 to February 28.

FIFTY PERSONS WERE POISONED by coal fumes in an apartment house at 650 Crown St., Brooklyn, January 26. The heating plant fire had been banked overnight with flue damper tightly closed. Most of the victims were rendered unconscious, though fatalities were avoided by effective work of the disaster unit from Kings County Hospital, and police emergency trucks.

There's a Great Day Coming!

HEAVY METAL THAT FLOATS IN AIR THROUGH MAGNETISM

Call it scientific magic, if you wish . . . yet the fact remains that two heavy metal bars can be magnetized so strongly that one will "float" above the other for an indefinite period.

Can such "magic" be put to work? It can, and *has been!* For example, we have already built a permanent magnet motor that cuts current consumption one-third, materially reduces heat, and is much smaller than ordinary motors of the same output. This means it can be used as an integral part of an assembly.

But that's only a beginning. Important, too, is the magnetic metal's value in reducing friction. Many authorities of vision predict we may even see machinery whose bearings will need no lubrication . . . may even ride in railroad cars that "float" above the rails!

Delco Appliance plans to use this "magic" to bring you finer, longer wearing home equipment when the war is won—equipment that will enable you to cash in quickly on the greatest home appliance market that has ever existed. Until then, producing for Victory comes first, of course.

Delco Appliances include Automatic Delco-Heat (oil-coal-gas), Delco Water Systems, Delco-Light Power Plants and Delco-Light Ironclad Batteries.

DELCO APPLIANCE

DIVISION, GENERAL MOTORS CORPORATION, ROCHESTER, N. Y.

Victory is Our Business

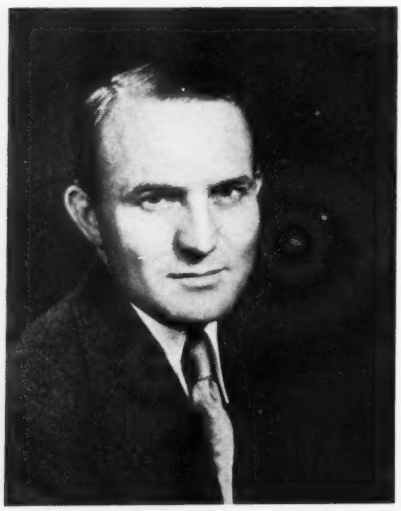
DURING WAR OR PEACE DELCO APPLIANCES "DO THE JOB BETTER"

fuel oil & oil heat

Oil Heat Institute Employs Horan for Dealer Activities

ON LEAVE FROM General Electric Co., where he was in charge of sales education, R. F. Horan has joined the staff of Oil-Heat Institute of America, Inc., to supervise and expand the Institute's program of dealer cooperation.

Before going with General Electric, Horan was district representative in charge of sales education in Connecticut and New York for Automatic Burner



R. F. Horan

Corp., Chicago. Prior to that he was a retail oilheating salesman, so comes to the Institute with a basic understanding of dealer problems and activities.

Horan plans to hold meetings with local dealer associations in principal oil-heating cities to explore ways and means of enlarging the Institute's usefulness to retail outlets.

C. F. Curtin, secretary-treasurer of OHI, continues in charge of the association's overall activities.

◈

Forced Warm Air Conference at Michigan State, Mar. 22-25

THE TWELFTH ANNUAL Forced Warm Air Conference of the National Warm Air Heating and Air Conditioning Assn. is to be held at Michigan State College, East Lansing, Mich., March 22-25, inclusive, as announced by Harold S. Sharp, association president.

Studies on fuel conservation with the objective of attaining highest efficiencies in warm air heating will occupy most of the educational sessions.

All officers of the association were re-elected for 1943 at the annual convention held in Cleveland in December. In addition to President Sharp, the officers are: H. P. Mueller, first vice-pres., F. E. Mehrings, second vice-pres., Geo. Boeddener, managing director, and F. G. Sedgwick, chairman of the research committee.

◈

U. S. Department of Labor Fueloil Prices, December

FIELD INVESTIGATORS for the Department of Labor check monthly prices of principal fuels in several cities in each section of the country. Getting retail quotations from several suppliers in each market, the prices are averaged and published. Those in the table that follow were taken December 15. Present prices in rationed states will average 3/10¢ higher, due to the price ceiling rise December 31.

Prices of principal grades of home heating and range oils on Dec. 15 were, in cents per gallon:

	Range	*No. 1*	*No. 2*	*No. 3*
Boston	9.61	9.44	7.70	8.70
Bridgeport	9.50	9.50	8.50	8.50
Fall River	10.57	..	9.40	..
Manchester	10.50	..	9.40	..
New Haven	9.55	..	8.60	..
Portland, Me.	9.60	9.52	8.70	..
Providence	9.50	9.50	8.60	..
Baltimore	..	9.24	8.70	..
Buffalo	10.30	10.30	9.70	9.70
Newark	..	10.30	8.70	8.70
New York	..	..	8.79	8.79
Philadelphia	..	9.49	8.56	8.55
Rochester	10.40	10.40	9.40	9.40
Washington	..	9.70	9.10	..
Chicago	9.18	7.65	7.65	7.65
Cleveland	..	8.24	8.24	7.72
Detroit	..	7.49	7.24	7.13
Des Moines	..	7.82	7.24	7.24
Milwaukee	8.27	8.22	7.70	7.70
Minneapolis	8.24	7.80	7.80	7.80
Omaha	..	7.50	6.90	6.90
St. Louis	7.96	7.43	6.94	6.94
St. Paul	8.30	7.80	7.80	7.80
New Orleans	..	8.76	7.21	7.21
Norfolk	..	9.40	8.50	8.50
Richmond	9.67	8.70	8.70	8.70
Denver	..	8.16	7.14	..
Portland, Ore.	..	7.00	6.00	..
Seattle	..	7.47	6.44	..

Tank Semi-Trailers Released under Priorities

APPLICATIONS FOR MORE than 320 of the 892 new tank semi-trailers, production of which was recently authorized by the War Production Board, to help in the nation's petroleum transport crisis, have been approved by the Office of Defense Transportation.

Joseph B. Eastman, ODT Director, indicated that within two months, or possibly sooner, most of the new units will be in the hands of operators and releasing rail tank cars for longer hauls. Already, he said, diversion of short-haul movements has made some 14,000 tank cars available.

The ODT Director also has announced that the War Department has agreed that purchasers of the new semi-trailers will be eligible for Certificates of Necessity allowing them to amortize their investments in the units over either a five-year period, or the period elapsing between the purchase and the end of the war emergency.

The new units are being allocated by the ODT and the WPB under WPB General Conservation Order M-100, which provides for the rationing of new commercial motor vehicles. Operators desiring new semi-trailers or tractors submit their applications to ODT local allocation offices, located in 80 cities throughout the country. If the application is recommended by the local officer, it then is sent to the Division of Motor Transport, Washington.

◈

Minneapolis-Honeywell in 500 Army Theatres

THE UNITED STATES ARMY has become the nation's leading operator of motion picture theatres, according to John E. Haines, official of Minneapolis-Honeywell Regulator Co., who stated that his company had supplied heating and ventilating controls for more than 500 theatres built on domestic Army bases.

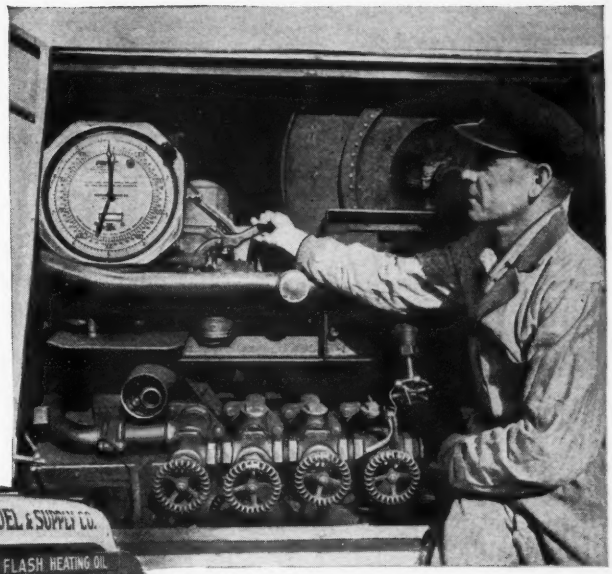
The theatres seat from 600 to 1,000 soldiers each and are heated and ventilated with standard equipment. The automatic controls are the same as those used in civilian buildings.

◈

Fitzgibbons Boiler Co., Inc., New York, is distributing a mailing piece emphasizing the theme, "We are Fighting the Axis, Not Each Other."

"Bunch the Orders"

—and meter your fuel oil deliveries



The tank truck fleet of Wauwatosa Fuel & Supply Co., Wauwatosa, Wis., use Red Seal meters for the quick handling of some 300,000 gallons of fuel oil delivered monthly to their customers. Note the meter's "auto-stop" feature—a time-saver that insures the automatic delivery of oil in any definite quantity.

Hughes Bros. Oil Co., Elkhart, Ind., testify to the time and labor saved by use of their Red Seal meters. This Hughes Bros.' fuel oil truck is equipped with a Red Seal Print-O-Meter—which prints a "receipt ticket" showing the exact amount of gallonage dispensed at each delivery and which goes a long way toward preventing arguments with customers, these days.

THE fuel-oil-rationed states have been having their local delivery problems: Innumerable small dumps, with a maximum number of trucks delivering less oil per mile . . . slower truck speeds, with longer travel time point-to-point . . . often a manpower shortage in tank truck drivers.

What to do?

ODT and OPA advise: "Bunch orders. Eliminate special deliveries and call-backs to cover blank stops. Demand two full days' advance notice on orders, with each dump to be at least 65% of consumer's tank capacity."

And—veteran oil men will add—use a *metered* delivery tank truck, if you possibly can. It gives you efficient, time-saving, one-man delivery. Quick, accurate measurement of each dump, to the very gallon. Full loads, with no unaccounted-for gallonage or waste. No disputes over measurement, with customers!

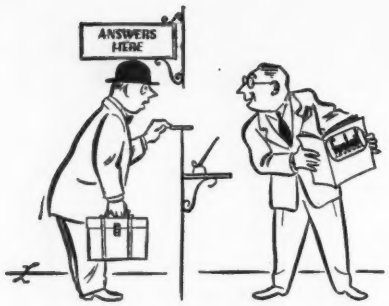
NEPTUNE RED SEAL METERS

NEPTUNE METER COMPANY. *Main Office: 50 West 50th Street, New York. Branch Offices at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, and Long Branch, Ont., Canada.*

1986

GASOLINE DISPENSING PUMPS • METERS FOR: BARGE AND TANK CAR UNLOADINGS • STORAGE TRANSFERS • LOADING RACKS • DELIVERY TANK TRUCKS

Fuel oil & oil heat



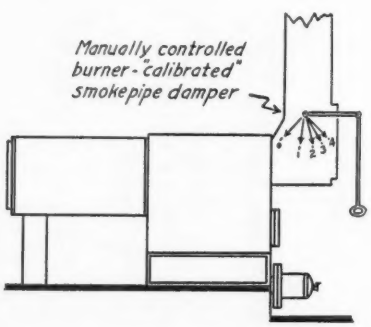
Reader's Problems

Q. The chief engineer of the boiler room in a large institution has asked us to use our draft gauges to calibrate his breeching dampers. The burners are started and adjusted manually. Attendants are on duty every minute to adjust the dampers, oil rate, etc., for maximum efficiencies. We never heard of calibrating dampers with the help of draft gauges. How is this done?

POWER PLANT ENGINEER, CHICAGO.

A. This request probably can be traced to experience with handfired coal plants in bygone years. A breeching damper often has little or no effect during the first one-third part of moving it from the wide-open to the closed position, yet the fireman may be adjusting it painstakingly for the one-eighth closed, one-quarter closed, half closed, and so on, positions.

To calibrate the dampers, take firebox readings with the gph rate set for a typical load on the boiler. For a heating boiler, use a gph rate which matches 20° or 30° outside temperatures. You will have to use a system of marking which you devise to match the characteristics of the installation, but here is the idea. Install some type of indicator or pointer for the damper (see accompanying sketch). With the damper wide open, if there is a .40" firebox draft, mark this position of the damper "4." Next, set the damper for .30" firebox draft, and mark this damper position "3." Step-by-step, arrive at zero firebox draft or at the closed position for the damper, whichever comes first.



Infinitely better results come from installing a permanent set of draft gauges in the boiler room. For each boiler, install two draft gauges, one for firebox or overfire draft and one for smoke outlet draft. These will permit the fireman to adjust the dampers for the firebox draft reading which the chief engineer finds must be maintained for maximum fuel economy. They provide additional advantages.

With emphasis on fuel economy, a survey should be made of the possibility of saving oil through installing special industrial type draft controls and oilburner controls. These can cut oil consumption of many boiler rooms 5% to 20%, compared with manual control of the burners. In addition, the use of recorders for draft, stack temperature and CO_2 may be necessary to eliminate wasting oil.

◈

Q. Will kerosene dyed red, used in a wet draft gauge, U-tube type, give accurate readings?

H. E. S., CEDAR RAPIDS, IOWA.

A. As this improvised draft gauge liquid probably will not be of the same specific gravity as the liquid for which the gauge is designed, the readings obtained with it probably will not be accurate. Draft gauge liquid costs little and a small bottle of it serves a dealer for months, if not for years. We recommend, therefore, that you buy a bottle of the proper liquid from the manufacturer of the gauge. Users of wet-type draft gauges, incidentally, do well to keep on hand a supply of the liquid.

◈

Q. Is there any way to detect air leaks in the suction line of a burner without digging up the line and running a pressure test?

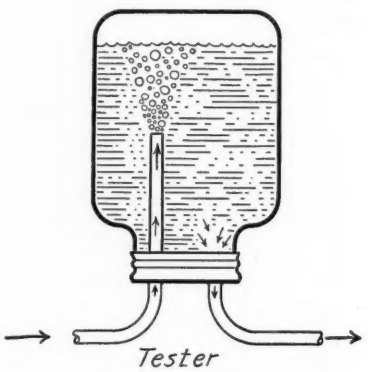
B. C., BOSTON.

A. The air leak tester shown in the accompanying sketch will tell whether or not there is a leak in the suction line that is air-binding the pump. When the service man knows whether the pump is receiving air, he is close to the remedy.

This air leak tester can be made in a few minutes of parts that cost almost nothing, for it consists of a one-quart glass jar with two pipes soldered in the cover. One pipe extends halfway into the jar.

To use the tester, hold it upright and fill the jar with fueloil. Screw the cover on tightly, using a gasket. Next, using rubber tubes, or any other convenient means, connect the tester in the suction line of the burner so the oil going to the pump passes through the jar, and run the burner with the jar held inverted, as the drawing shows. If air comes through the suction line, it will bubble up through the oil in the jar and will collect at the top as the illustration indicates. Flow of dirty oil, sediment, and water also may be observed.

To make the tester most helpful, attach a vacuum gauge to the cover, so that during the test you know the amount of suction against which the pump works.



This type of tester has other uses and can be applied other ways. Where it is difficult to connect to the pump inlet, or where the pump, working against high vacuum, is suspected of drawing air through the shaft gland, the tester may be connected to the output side of the pump. Also, the tester permits checking numerically on an air leak in a suction line. A bad leak may cause a pint of air to collect in the tester in five minutes; a slight leak, which the service man may try to offset by working on the fuel unit, may cause a pint of air to collect in 30 minutes.

Dealers who have test bench layouts for checking pumps may well install this type of tester on the input and output sides of the testing rig.

◈

Hotstream Heater Co., Cleveland, has published a 16-page manual, "Selecting Controls for Fuel Conservation," covering control applications for various fuels and methods of firing.

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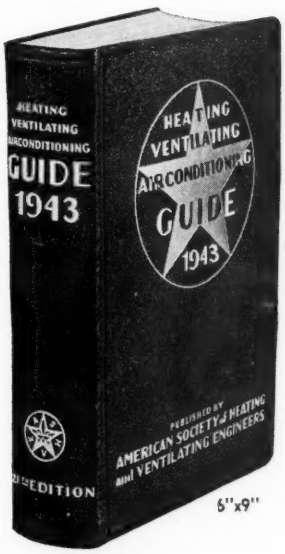

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FUELOIL & OIL HEAT 232 MADISON AVENUE NEW YORK CITY, N. Y.

Readers' Forum

CHALMERS OIL BURNER CO.
Minneapolis

To the Editor:

I have read with much interest your November Article—"Relation of Thermostat Setting to Fuel Conservation." I am a little dubious about those eight to ten per cent savings, at least here in Minneapolis.

To begin with we need a new term in order to discuss the subject. That new term is "degree hours." Degree hours is the average number of degrees between the outdoor and the indoor temperature multiplied by the number of hours in the day. Here in the Twin Cities our average heating season outdoor temperature is about 28 degrees Fah. If we use 72 Fah. as the usual indoor temperature our degree hours is the product of the difference i.e.—72 minus 28 multiplied by 24 or 1056.

I set this out in order to make another observation that is often passed over unnoticed i.e. the degree hours for the night is in excess of the degree hours for the day. The U. S. monthly meteorological summary at Minneapolis covering the month of November, 1942 gives the mean temperature at 12:30 P. M. as 37.8 Fah. and for 12:30 A. M. as 31.4. The mean for the month is 33.6 Fah. This is an average of (72—33.6) x 24 = 921 degree hours. If we compute the degree-hours for the midnight and noon temperatures, we get 487.8 and 410.4 respectively. These do not of course check exactly with the total because in November the days and nights are not quite of equal length. But the fact that the nights are colder than the days does affect the possible saving we can hope for by turning the thermostat back at night.

I have burned oil for twenty winters or more. I've tried this thermostat lowering, and have not been able to see much saving. Let us look at the matter, and compute possibilities. Suppose I run my home at 72 Fah. day times, but at 10 P. M., I set the thermostat back to 66. This for Minneapolis, month of November, 1942. My total is 921 degree hours. That 921 is the measure of the fuel I burn. At 10 P. M. I turn the thermostat back to 66 and at 5:30 A. M. I return it to 72. The 66 degree setting is for seven and one half hours. Then we have 7½ x (72—66) = 45 degree hours. 45 ÷ 921 = 4-8/10 per cent. Observe that the colder the climate and the colder the particular winter the smaller the per cent to be saved.

In fairness it must be pointed out that percentages of savings obtainable in Washington, D. C. cannot be realized in Minneapolis. In conclusion, I fear your article about "Thermostat Setting and Conservation of Fuel" claiming 8 or 10 per cent saving under the conditions named is misleading. In the great belt of Northern States where we have real winter, such savings will not materialize.

C. H. CHALMERS.

COMMERCE PETROLEUM CO.
Chicago

Editor:

Acknowledging receipt of yours of the 14th in response to mine of December 21st, concerning the fuel oil rationing situation in the Middle West.

Your letter seems to me to stress our dislike of rationing. I wish I could convey to you the thought that we, in the Middle West, are not questioning fuel oil rationing itself. As oil dealers, we have confidence in the Petroleum Administrator's Office and when OPC recommended to WPB that rationing be extended to this area, their recommendation was accepted by us.

With regard to the supply situation, all I can say is that with a 25% colder winter we have been able, in spite of the complexities of the rationing system, to maintain reasonable stocks and also keep those customers with valid coupons in oil.

For your information, I have just completed a comparison of truck operations for this December as compared to the previous December. I find that the same number of trucks, confined to domestic deliveries only, are working longer hours (with only a 25% increase in volume handled), had an increase of 77% in a number of stops and an increase of 32% in miles traveled. Our average delivery per stop was 353 gallons compared to 480 gallons the previous December.

When we were told to reduce our mileage 25%, we turned over to our competitors a good number of accounts, whose locations were too distant from our bulk plants. Even after this move, we showed an increase of 32% in miles traveled.

For some unexplained reason, some Easterners are still under the impression that the Middle West "can't take it" and we are subordinating the war effort second to their own personal needs. A glance at the number of enlistments per thousand population, the casualty lists and the percentage of War Bond quotas certainly disproves this theory.

In closing, let me again state, we do not question the necessity of rationing and we only hope Prentiss Brown will bring about a simplification to the fuel oil rationing plan so that our customers will not have to be penalized from a cost standpoint and we will be able to utilize our manpower, equipment and tires to the benefit of the War effort.

J. LOEFFLER.

PETERSON & KEMPNER, INC.
New York

Editor:

The subject of this letter covers my personal experience in an oil-saving scheme which I believe if carried out generally would be of benefit to the industry.

My home is a typical seven-room suburban house. I have a Fitzgibbons steel boiler with Delco oil burner—a very fine combination. In order to meet oil restrictions and rationing, at the start of winter I installed in the living room a comparatively small and unobtrusive "pot-bellied" stove, piping it up the fireplace opening. My idea was of course to provide auxiliary heat much as is done by the fireplace grate burning cannel coal, so largely favored by home owners.

However, I find that instead of being a secondary source of heat, the stove has turned out to be my primary source. Even at 20 degree outside temperature, it keeps the lower floor comfortable without oil burner operation. It is very easy to maintain, as it is on the living room floor where observation is easy—not in the basement requiring running up and down stairs. It requires little manual labor, burning only half a ton of coal per month. It burns continuously, night and day, and does not go out.

The sum total of all this is that I still have my oil burner, enjoying all the blessings of oil fired automatic heat, with a very substantial reduction in oil consumption. The oil burner operates to capacity only in the early morning, to bring steam throughout the house. The rest of

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the time only to keep service water hot, except in extremely cold weather when it supplements the stove to the extent required by the thermometer.

Knowing what I now do about the efficiency of this set-up, if my fireplace opening had not been high enough to admit of the smoke pipe from the stove, I would have broken through the wall above the mantle, and inserted a thimble into the fireplace flue to take the smoke pipe from the stove. I have seen this arrangement in Florida houses, the opening being closed when not in use, and covered by a picture or other wall decoration.

I know of only one other home equipped like mine, and the owner has enjoyed a similar experience.

Thus I obtain complete comfort without converting, with great cut-down in oil, with no large area of basement taken up by coal storage—the one ton coal bin being in the back yard. And I still have my oil burner. I suppose you might call these scheme "semi-conversion."

WILLIAM E. PETERSON.

DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	December		Percent		(Sept. 1 to Dec. 31)			Percent
Normal	1941	1942	Change*		Normal	1941	1942	Change*
1139	1097	1313	+19.7	Albany	2421	2343	2704	+15.4
640	545	660	+21.2	Atlanta	1175	951	1109	+16.6
852	698	928	+33.0	Baltimore	1647	1233	1611	+30.6
1000	923	1132	+22.7	Boston	2087	1822	2169	+18.5
1102	966	1233	+27.6	Buffalo	2384	2061	2493	+20.9
1108	889	1307	+47.0	Chicago	2235	1859	2592	+39.4
953	794	1046	+31.8	Cincinnati	1892	1549	1984	+28.1
1014	871	1187	+36.3	Cleveland	2094	1880	2329	+23.8
571	476	530	+11.3	Dallas	944	858	863	+ .6
1012	932	867	— 7.0	Denver	2272	2179	2100	— 3.6
1200	986	1314	+33.3	Des Moines	2424	2045	2563	+25.3
1120	912	1223	+34.2	Detroit	2369	1962	2493	+27.1
1129	909	1195	+31.5	Grand Rapids	2456	1991	2492	+25.1
1052	986	1199	+21.6	Hartford	2217	2029	2346	+15.6
1245	1256	1155	— 8.0	Helena	3074	3276	3027	— 7.6
331	243	270	+11.1	Houston	520	450	416	— 7.6
1026	822	1140	+38.7	Indianapolis	2053	1617	2121	+31.2
986	778	1059	+36.2	Kansas City	1877	1564	1966	+25.7
225	254	209	—17.7	Los Angeles	383	403	354	—12.2
875	713	956	+34.1	Louisville	1677	1371	1754	+27.9
1198	1011	1391	+37.5	Milwaukee	2515	2255	2865	+27.1
1415	1203	1535	+27.6	Minneapolis	3005	2634	3218	+22.2
305	211	255	+20.8	New Orleans	475	389	378	— 2.8
934	834	1034	+24.0	New York	1859	1532	1844	+20.3
1163	995	1264	+27.0	Omaha	2310	2128	2485	+16.8
877	779	1000	+28.4	Philadelphia	1697	1392	1760	+26.4
979	864	1054	+22.0	Pittsburgh	2028	1773	2147	+21.1
1172	1103	1297	+17.6	Portland, Me.	2602	2657	2857	+ 7.5
729	658	645	— 2.0	Portland, Ore.	1676	1512	1488	— 1.6
1015	945	1126	+19.2	Providence	2157	1870	2142	+14.5
917	735	981	+33.5	St. Louis	1729	1439	1786	+24.2
1040	889	984	+10.7	Salt Lake City	2224	2171	2209	+ 1.8
426	360	399	+10.8	San Francisco	930	789	959	+21.6
1379	1277	1515	+18.7	Sault Ste. Marie	3285	3090	3445	+11.5
708	651	638	— 2.0	Seattle	1812	1632	1630	— .1
1090	884	1224	+38.5	Toledo	2278	1886	2419	+28.2
870	715	937	+31.0	Washington	1725	1306	1653	+26.6

*Compared with last year, not with normal

SCULLY SIGNAL CO.
Cambridge, Mass.

Editor:

One of our neighboring fueloil distributors has adopted a method of delivery which is serving them very well in these trying times.

They have got about 80% of their customers to deposit their coupons and those who have not deposited their coupons they are asking for five days notice before making a drop. They will make a drop without the five days notice but this is helping to bring everybody over into the deposit coupons class.

They formerly used a route delivery but felt that because of the decrease in consumption, route delivery would be extremely inefficient and, unlike many companies that have deserted Degree Day operation, they started Degree Day this year.

They determine the "K" factor by utilizing a normal Degree Day load in its relation to the gallons allowed the individual consumer. For example, if we assume the normal Degree Days are 6000 and the consumer was allotted 1500 gallons, he was immediately given a "K" factor of 4.

However, they increased the reserve in the tank considerably above what they would do on the usual Degree Day system,—bringing it up to an average of about 75-80 gallons. This means that even if the consumer used far more than he should he would not run out before the delivery was made.

Instead of shooting for an average drop of 200 gallons they are perfectly content to average around 170, and astounding as it may seem they have decreased their delivery costs over last year.

Ventalarm is an integral part of the operation.

F. P. SCULLY.

MAY WE

send you service men this helpful booklet?

You're an expert at curing sick burners—so there's no use saying that this book will help you learn any new tricks about saving oil, heat or money!

But many of you oil-burner service men are using the book to show their customers what Sun Oil recommends these war days when furnace oil is scarce. Who knows? It may help you make other recommended sales—and now that you can't sell new burners, it's servicing the old that will carry you through the duration.

So hadn't you better keep a copy in your sales kit? Just drop a line to Sun Oil Company, Sun Building, Philadelphia.

. . . sponsors of the famous LOWELL THOMAS broadcasts which are regularly advising oil burner owners to consult their local service men if they want their burners kept at peak efficiency.

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SUN OIL CO., PHILADELPHIA

THE MARINE NEWS
New York

Editor:

The article, "New Jersey Ship Canal Urged by Waterways Men," in a recent issue, has come to our notice. We hope that you will believe that the following waterway facts will be interesting to your readers.

Striking events are making manifest the real value of the inland waterways. Now, owing to their safety and to the burden on the railroads, their worth to the nation is incalculable.

The public knows practically nothing about one of the nation's greatest assets, the Federal waterway system.

Now, with the fate of the democratic world depending so much upon America for supplies, equipment, and military and naval aid, how futile the situation would be but for these waterways.

Every shipyard in America is located on a waterway improved by the Federal Government.

Without improved harbors, improved channels from the sea and lakes, our Navy and Merchant Marine could not exist; our railroads would not have the tremendous tonnage brought to or taken from them by ships; water terminals would be nonexistent. The coastal terminal cities of today were made possible through the interchange of waterborne and rail commerce.

Without the Cape Cod Canal, water transportation between New York and Boston would be more perilous, take longer and be more expensive. Right now,

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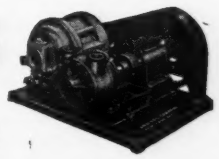
Kraissl Class 60 heavy oil pumps



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without the canal, all this shipping would face probable submarine attack.

Without the improvements made on the Hudson River and the New York State Barge Canal system, the economical movement of sufficient grain, oil, lumber, pulpwood and other bulk products between the Great Lakes and the seaboard would be a problem. These waterways serve another purpose; they help keep railway rates where they should be. The improved Hudson enables the Port of Albany to handle ocean shipping.

Without the improved Chesapeake and Delaware Canal, it would not be possible for deep draft vessels to move between Delaware and Chesapeake Bays, again safe from submarine attack.

What a blessing it would be today if the Atlantic and Gulf Intracoastal Waterways were deep and wide; if the proposed canals across New Jersey and Florida were complete. Then, this protected waterway system would extend from Boston to close to the Mexican border. Through it, tankers and barges, destroyers and other light draft naval vessels could navigate safely.

A waterway connecting the Tennessee and Tombigbee Rivers would be of immense value to the industrial heart of the South: low cost waterborne commerce is vital to the development of the nation.

Without the improved Gulf Intracoastal Waterway, much of the vast movement of bulk commodities from the Gulf Coast would have to move at costs many times that on waterways and, now, on the dangerous open sea.

Without the development of the Houston Ship Channel, the world Port of Houston, as the great city of the Southwest, would not exist. Railways handled, either before or after water shipment, a large part of the tremendous tonnage of this port.

Without the improvements that have been made on the Mississippi, Missouri, Illinois, Ohio, Tennessee, Kanawha, and other rivers forming our vast inland waterway system, these streams could not be used as they now are—where tows of more than a trainload of bulk cargo such as steel products, coal, lumber, lime, cement, grain and other farm products; gasoline and fuel oil, are effecting enormous savings in transportation costs. This inland transportation is vital to the nation today.

Without the great locks at the Soo, the improved St. Mary's, St. Clair and Detroit Rivers, the improved harbors at Great Lakes ports, the facilities for moving ninety million tons annually of vitally needed iron ore from upper Lake Superior to ports on Lakes Michigan and Erie would not exist, except at a transportation cost of from eight to ten times the water rates. Our commanding position in the steel world would be lost. Without these same facilities, the price of coal in the upper lake regions would be increased tremendously, for the same ships that bring ore down the Lakes go back with coal.

The value of a completed Beaver and Mahoning Canal, connecting the incomparable Great Lakes system with that of the Ohio and Mississippi systems is inestimable.

Continuing harbor, channel and river improvements along the Pacific Coast from San Diego, California to Bellingham, Washington, is helping the advancement of the West Coast region and its hinterland incalculably. The San Joaquin, Sacramento and Columbia Rivers will become increasingly important commercial arteries.

Without the low transportation costs made possible by interchange of freight at water-rail terminals, a vast tonnage would never reach the railroads. What a wholesome thing it would be for the nation if the interchange of water and rail traffic was fully developed and properly regulated. Enormous potential benefits to the people lie here. Water-rail transport is the keystone of our national economy. In wartime it is that and more; it is the assurance our democracy will endure.

When initiated, many projects so vital to us now were criticized or condemned by selfish or sectional interests. "Pork barrel," they shouted to an uninformed public. And today, these same interests continue to combat the expansion of our unparalleled natural waterways; expansion necessary for defense and for the growth of the nation.

At this solemn moment, our outlook would be dark but for the existence of the facilities for naval mobility and waterborne commerce.

America has the greatest potential inland and intracoastal waterway system on earth; development is making it a priceless national asset, assuring the safety of the nation and benefits for all.

S. WILLSON RICHARDS, EDITOR.

Last Month--

WESTINGHOUSE ELECTRIC CO. is sponsoring a new radio program featuring the famous baritone, John Charles Thomas, and broadcast over NBC network Sundays at 2:30 P.M., E.W.T.

PRIORITY ASSISTANCE for getting Class A stokers, up to 1,200 lbs. per hour capacity, may now be had from District offices of WPB in New York and New Jersey, instead of from Washington as formerly. Application PD-668 is used for stokers and PD-33A is used for other conversion materials up to $5,000 value.

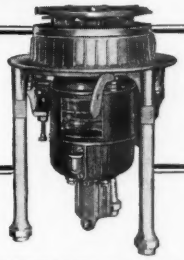
THE UNITED STATES ARMY is sponsoring special training for combustion engineers to encourage fuel saving in the thousands of army buildings throughout the world. A selected staff of officers recently completed such a course in Philadelphia at the Brown Instrument Div. of Minneapolis-Honeywell.

SOUTHERN STOVE WORKS, INC., Richmond, Va., will be denied all priority assistance and material allocations for 90 days, beginning March 1, under WPB Suspension Order S-201. The company is said to have used last September and October 320,000 pounds of iron making fireplace grates, in violation of Order M-126, greatly accelerating its production of the prohibited articles immediately after they were placed on the prohibited list.

PENN ELECTRIC SWITCH CO., Goshen, Ind., paid a year-end bonus to all employees, representing 12½% of their salaries or wages during the year. Most interesting feature of the bonus is its plan of distribution, which provides for immediate payment of $100 and the remainder to be divided into four equal instalments, payable on the 10th of March, June, September and December, or five days before income tax dates.

L-187, CONTROLLING THE manufacture of low-pressure cast iron heating boilers has been relaxed by an amendment, permiting the casting of these boilers for military and essential civilian needs, including war housing. Civilian boilers must be authorized by the Director General for Operations of WPB, on Form PD-704 submitted by the applicant. Manufacturers also are allowed to use 4.5% of 1940 tonnage in the first two quarters to make repair parts.

THE TORIDHEET LIBERTY LINE



QUICK SHIPMENT FROM STOCK

We can make immediate shipments from stock of the following equipment.

Model B Wall-Flame Burners
Model C Wall-Flame Burners
Model S Pressure Burners
Model G Pressure Burners
Series OEO Air Conditioning Furnaces
Model 140 Water Heaters

Also, prompt shipment can be made from warehouse stocks of oil-burner boilers.

You owe it to yourself and to your community to replace worn-out equipment with Toridheet—because Toridheet was created to *cut* oil consumption.

This is the time to tie up with Toridheet. Write today for complete information.

CLEVELAND STEEL PRODUCTS CORP.
TORIDHEET DIVISION CLEVELAND, OHIO

Oil Burners ★ Air Conditioning Units ★ Oil-Burner Boilers
Coal and Gas Furnaces ★ Water Heaters

HAVE YOU SOMETHING TO SELL?

"I know you will be interested in the fact that we have added 331 new dealer accounts to our books since October. These dealers had never bought from us before and we credit this record, principally, to our continued advertising. We have used 'Fueloil & Oil Heat' as the only medium in the trade journal field. We also followed this up with direct mail, using your services and our own.

"We believe that in these times when there is much scrambling among dealers to get parts and repair services, there is more interest in your advertisements than ever before."

SID HARVEY, INC.,
Feb. 1, 1943 Valley Stream, N. Y.

Space in FUELOIL & OIL HEAT enables advertisers to keep their name before the entire field, thus protecting their investment; gives them a chance at current business (see above); and enables them to co-operate with this publication in the industry's behalf.

Whatever you want to sell in this field—goodwill, prestige, or product,—we can do the job for you, efficiently and at low cost.

FUELOIL & OIL HEAT
232 Madison Ave. **New York, N. Y.**

The Tuthill Pumps and Fuelstats that would normally help warm the homes of thousands of Americans are today making it hot for the enemy.

This "business as unusual" obviously calls for sacrifices now. In the long run, however, it will assure business as usual with Tuthill Pumps and Fuelstats—more dependable than ever.

In the meantime, to keep your present Tuthill equipment operating efficiently, repairs and re-conditioning are available through Tuthill authorized service stations or at the factory.

TUTHILL PUMPS ARE SERVING ARMY-NAVY-AIR FORCE MERCHANT MARINE

Tuthill

TUTHILL PUMP COMPANY
939 EAST 95TH ST. • CHICAGO, ILLINOIS

Oilheating Trends

(*Continued from page* 11)

livered, and average delivery cost per gallon raised 1¼ mills.

Distributors had to put on more office help to handle coupons and other rationing detail, an average of one clerical employee to each 670 customers. This represents a cost increase of about 1½ mills per gallon.

POSTWAR RETURN TO OIL: Domestic and commercial customers who have converted to coal will come back to oil when the supply is again ample, in the opinion of nearly all Eastern distributors. Midwest distributors are less optimistic. Asked to make a prediction, based upon customer attitudes as expressed to them, these Eastern comments are typical: "Their departure is only temporary" . . . "They will return" . . . "I know they will come back; coal heat really is dirty and requires much work; my customers prefer to be lazy on their heating" . . . "All want to go back to oil; they caution us to be careful in storing the burner" . . . "Definitely will come back, except where stokers are installed, and some of those will be taken out" . . . "They will be glad to come back, having had experience with no-attention oil heat" . . . "Our customers who have installed stokers say they will come back to oil" . . . "Positively temporary." All told, 93% of Eastern distributors feel that way about it, with only 7% pessimistic.

But in the Midwest, 71% of reporting dealers feel that at least half of the conversions are permanently lost for oilheating, and only 14% are optimistic over the outlook; 29% think all such customers are lost.

The difference in attitude between the two sections is surprising at first glance, but partly understandable. In the Midwest stokers are more widely acceptable than in the East, also in the area west of Pittsburgh natural gas is abundant and cheap; oilheating has only an even break in public favor alongside its two competitors. The Eastern public, on the other hand, has repeatedly shown it doesn't like stokers; manufactured gas for heating is too costly for most people; oilheating is far ahead of either in acceptance. It is a major problem of the oilheating industry to retain this Eastern friendship, and improve the Midwest slant.

Local Draft Boards May Defer Burner Service Men

THE SELECTIVE SERVICE Bureau of the War Manpower Commission has advised local boards of 34 essential occupations in repair and hand trade services in which registrants may be deferred as "necessary men."

Pointing out that the War Manpower Commission had certified that repair and hand trade services are essential to the support of the war effort, the Selective Service Bureau said that its occupational bulletin on this activity covers "Repair of vehicles, such as bicycles, motorcycles, automobiles, buses, trucks, tires, stoves, power laundry equipment, scientific, commercial and industrial weighing machines, farm equipment, and of other industrial and scientific equipment; blacksmithing; armature rewinding; locksmithing. Repair of roofing, electric, gas, and plumbing installations in domestic, commercial, and industrial buildings."

While not specifically listing oilburner men, most local boards assume that they are included in its intent, and a good many such deferments are being reported.

KEEP 'EM FIRING
with Gar Wood

★ Self-Contained Forced Warm Air Automatic Oil-Fired Heating Units, (from 50,000 to 500,000 B.T.U./Hr.)

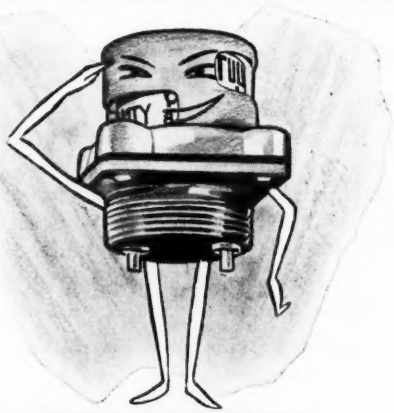
★ Industrial Space Heaters up to 500,000 B.T.U./Hr.

★ Boiler-Burner Units up to 25 HP.

Some Distributors and Dealers are receiving Government business for Heating Equipment. If you are one of those who are called upon to submit estimates, heating plans and surveys, we suggest you enlist our cooperation and our engineering service.

Write today for "ENGINEERING STANDARDS"—this valuable 72-page book on Engineering, Installation and Operation of Heating Systems, sent free on request to Sheet Metal Contractors and Dealers, Engineers and Architects. This offer made for a limited time only. Address reply to Dept. 14A.

HEATING DIVISION
GAR WOOD INDUSTRIES, INC., DETROIT
Protect Freedom—Buy War Bonds



ENLISTED!
for 24 Hour Duty

The advent of Government rationing of Fuel Oil is creating an unprecedented demand for Rochester Oil Burner Tank Gauges . . . not only because of their *dependable accuracy*, but because of the exclusive "double-dial" feature which permits oil delivery men to read tank contents *quickly* from the *outside*—thus facilitating delivery and providing *accurate* proof of gallonage. Investigate these low-cost, easy-to-install Gauges today. Available for immediate delivery through your Rochester Gauge Jobber.

ROCHESTER MFG. CO., INC., 7 Rockwood St., Rochester, N. Y.

Rochester OIL BURNER TANK GAUGES

Do It Right

(Continued from page 16)

bination plumber and service man this idea does not apply. However it may keep you from being called out in the middle of the night, which is worth something.

Right now more than ever a job is waiting for some one to set up a fool-proof system of receiving-handling and filing telephoned service calls. . . . a system that in its simplicity can be used by the large and small organization with equal success. Anything to cut down lost motion through simplification and less handling would be a tremendous help when labor is so scarce. The system must include the means to eliminate unnecessary trips and an increase in the number of C. O. D. accounts.

To many, service businesses have been given away in the past years for the want of a little knowledge of how to handle these in-coming calls. Most of us have struggled with this problem against the opposition of less consciencious competitors and competition that didn't know better. Most readers face this problem as individuals rather than large organizations. For example, customers ask specifically for the boss. It is pretty hard for the boss to turn a customer like this down even though he deserves it; difficult because service means specifically that, and too, there is always the implied threat of going over to the competitor for help. Present emergency conditions have clarified the situation quite a bit: first, because the customer is ready to do with less and second, because all service organizations are pretty nearly in the same boat.

To date the best filter for calls is someone else on the phone. Your secretary is too much interested in your welfare to put up much of an argument and yet a girl cannot effectively understand the mechanics. Therefore some well-informed member of the organization should be available to take over calls when necessary and answer questions.

It seems a long time ago that the last salesman was in with genuine pump replacement parts. It will probably be longer before he comes in again. The answer is of course that the parts are no longer made and that the salesman is now in the army. That does not help the customer with the broken cut-off valve.

The loss of these parts so vital to the operation of a burner becomes an increasingly serious problem and when substitutes can no longer be found the burner must be discarded. The coming of this day must be put off as long as possible, with the thought that materials for civilian use will become available again before the war is over, once balance of production has been reached. Before this time arrives lots of things can happen.

Every effort should be made to repair worn parts and to make sure reported defective parts are defective. To do this one shop after a great many attempts to resurface pump seals by hand designed a machine to grind the seats. The development proved to be extremely difficult and quite expensive but it worked and has proven a life saver in the present emergency.

The cut-off bellows of fuel units are an increasing problem in that small leaks develop, due to the corrosive action of the oil on the brass. When a cut-off valve failed to work it was immediately under suspicion and rather than make a second replacement in the field the bellows was discarded for a new one. There was no

FIRING TROUBLE?

--TRY MONARCH

Almost any Nozzles seem to give passable fires on some burner installations—but "passable" results are "out" for the duration! *How about* those jobs you aren't quite satisfied with? Are they pulsating on start-up, running, or shut-down? Do they have smoky fires? Combustion roar? Poor CO_2?

A Monarch F-80 nozzle with the correct spray characteristics, used in conjunction with the *proper air mixing equipment,* can *cure* most jobs of these troubles!

Tell us all about some particular job, and ask for recommendations.

Do you have Catalog D.?

MONARCH MFG. WORKS, INC.

E. WESTMORELAND AND SALMON STS. PHILADELPHIA, PA.

This WINTER — the NEXT — and the NEXT!

Because ABC has consistently maintained its high standard of manufacture throughout these past two decades — this Winter, the next and the next will find the ABC Oil Burner ably proving its high efficiency and low fuel consumption. And, since it will be these Winters that the homeowners will fully realize the difference between smooth, trouble-free operation with no waste of fuel — and costly breakdowns, the Dealers who installed ABC Oil Burners will be the men to whom the homeowners will give their wholehearted loyalty — the men upon whom they will rely for guidance in all the years to come!

ABC Oil Burner

AUTOMATIC BURNER CORPORATION

Chicago, Ill. New York, N. Y.

fueloil & oil heat

doubt in anyone's mind that in the pile of discards there were good units that were only under suspicion. To find them it was necessary to build a testing block that would simulate the operation of the bellows in the unit.

A further requirement was that a full view of the bellows under test had to be available at all times. Eventually twenty percent of the original discard of bellows was reclaimed and many of these repaired for future use.

These examples of ingenuity are given as illustrations of what can be done in one field. Every discarded part on an oil burner represents a possible place to pick up loose ends and consequent savings, through the full use of conservation methods applicable to each individual's needs.

A new function of oil burner service has been created by the oil emergency. That is the inspection of furnaces for the installation of grates. No service organization wants to see his accounts go to coal but we face a condition today where our individual and personal ambitions must be submerged for the needs of the many. The best we can do is to handle the situation in the most advantageous way.

Anyone going out of business can hack off the oil feed lines to a burner and snip off the wires, throw the burner into the corner and slap in a set of grates. One sure result of work of this kind is that you will receive a mental cussing from the former customer everytime he looks at his dust-covered one-time pride and joy or when he discovers that Junior has gone to work on the stack delay with the axe.

Most people are willing to pay for good workmanship and most people converting their furnaces from oil to coal expect to go back to oil someday. Because of this, any conversion should be carried out under a strict plan with the ultimate knowledge that the burner is to go back in service again. To do this, arrange to cap the oil lines and bury them beneath the floor out of the way wrapped in paper or an old rag. Cover them then with enough cement to protect them and so that they can be found again with the least amount of trouble.

On the electrical lines, don't cut wires. Take down unused controls and after taping up exposed wire ends, tie them up so they will be out of the way and usable again. With the controls down, put plenty of oil on the rustable parts, wipe dirt and dust off of everything and wrap each piece in newspaper. Have the local lumber yard make up a solid and tight box large enough to hold the burner and the controls.

Clean up the burner by cleaning the strainers, draining off oil and water from the fuel unit and using lubricating oil freely throughout the pump and motor bearings. Clean the nozzle assembly and electrodes, wipe off the burner and see that the whole job is clean and ready to run again at some future time. With this preparatory work finished, pack the burner and controls in the packing case and nail down the lid.

Put plenty of labels on the case so there will be no doubt as to what is in it and, most important of all, be sure your name and address is well marked on the outside of the case so they will know whom to call when the time comes to reinstall the burner and sign on the dotted line. By placing a crated burner like this up out of the way of water damage, the burner should be as good in ten years as it was when it was put away and it can be put

HERCO
The Oil-Thrifty
OIL BURNER

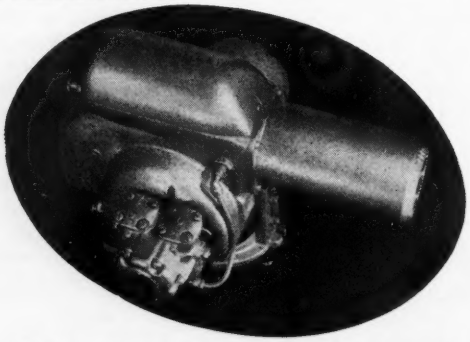
PROOF of Herco efficiency is its performance which is giving users *more oil savings.* This is proof which builds future sales! Herco Burners save oil 3 ways:

EXCLUSIVE HERCO THRIFTI-FIER concentrates heat on heating surfaces.

MERCOID VISAFLAME ends need for high stack temperatures.

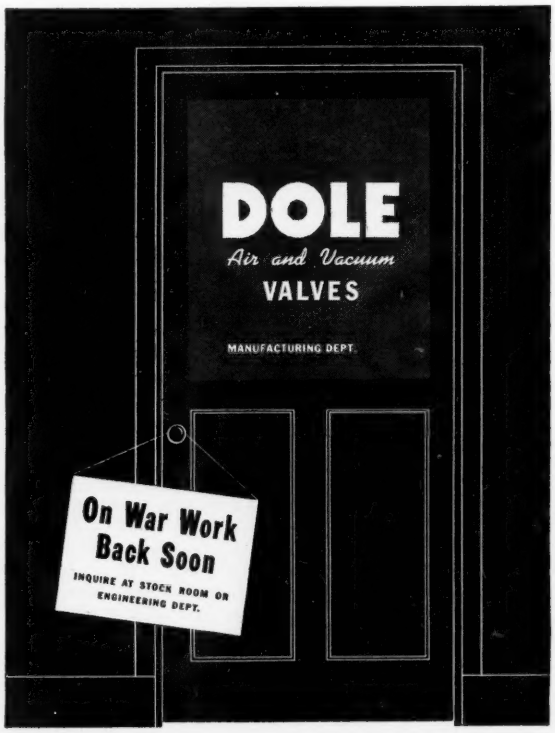
HERCO UNIT ENGINEERING integrates fine parts into a balanced unit of peak combustion efficiency.

War materials demand 100% of Herco production. But there are a limited number of Herco Burners still available for immediate delivery.



All Herco Burners are listed as approved by Underwriters' Laboratories, Inc. for Commercial Standard CS75-39.

HERCO OIL BURNER CORP., LANCASTER, PA.



THE DOLE VALVE COMPANY
1901-41 Carroll Avenue, Chicago, Ill.
REPRESENTATIVES IN PRINCIPAL CITIES

back into operation without great effort at anytime.

In making a conversion do not necessarily remove the draft control. This control can create the same economy with coal as it did with oil. It must be readjusted so as to provide a greater overfired draft than it previously did and when this adjustment is properly made the old smoke pipe damper can be dispensed with for keeps. Controlled draft tension with coal is just as important as with oil. This draft requirement will vary with the depth of the fuel bed and the cleanliness of the fire. These variations can be balanced by the check draft and ashpit draft door.

In considering conversion from oil to coal, inasmuch as we are in a mass conversion move at this time, there is bound to be artificial shortages of certain essential elements. One of these elements will be stoker sizes of coal. It is very likely that with an unheard of number of stokers going into the market and each owner putting in a season's and more supply of coal that a definite shortage will be created in stoker sizes of coal by next winter. Fortunate indeed will be the man with grates for he can burn his furniture if necessary but the man with a stoker will not fare so well as he will be limited to one size of fuel only and that with certain physical characteristics.

This is a war and every mother's son and plenty of mothers will have to learn to live a great deal differently than they have ever known before. The way we fall in line and give our full cooperation and effort to the successful pursuit of the war will determine the manner of its outcome and our future mode of existence.

Alien Oilheating Patents Available to U. S. Mfrs.

ENEMY OWNED United States patents which have been taken over by the Alien Property Custodian include a number relating to oilburners and oilburning. Such as have not been licensed exclusively to some manufacturer will be licensed to other responsible firms on a non-exclusive, royalty-free basis, for the duration of the war and six months thereafter. At the end of that period their use may be continued under a small royalty payment.

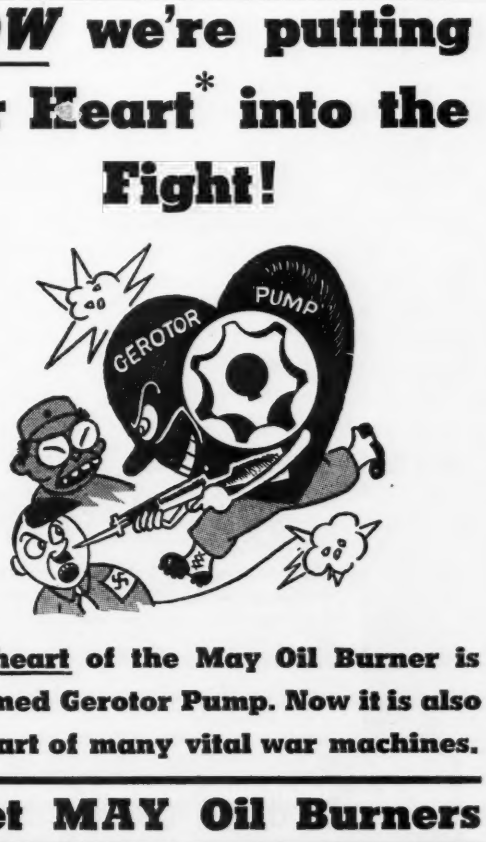
To share the benefits of these patents, a manufacturer pays the Government $50 for the first one, and $5 each for additional ones.

Patents Available

A list of such oilheating patents, compiled by James G. Bethell, patent attorney, 17 East 42nd St., New York, follows:

Patents Taken Over By The Alien Property Custodian

1,581,725—Apparatus for Atomizing Liquid Fuel
1,781,236—Whirl Burner
1,784,747—Fuel Burner
1,799,757—Fuel Burning System
1,799,758—Fuel Burning System
1,811,371—Oil Burner
1,874,341—Process for Burning Heavy Oils
1,975,033—Oil Burner
1,995,861—Oil Burning Apparatus
1,996,336—Burner for Liquid Fuel
2,003,181—Burner for Heavy Liquid Fuels
2,059,638—Liquid Fuel Burner
2,094,959—Burner for Liquid Fuels
2,141,360—Liquid Fuel Burner
2,153,024—Atomizer for Liquids in General and in particular for Liquid Fuels
2,153,379—Device for Feeding Liquid Fuel
2,204,170—Atomizer Burner for Liquid Fuel
2,247,889—Liquid Fuel Burner
2,274,573—Oil Burner
2,279,546—Igniting Means for Fuel Air Burners.


NOW we're putting our Heart* into the Fight!
GEROTOR
PUMP
*The heart of the May Oil Burner is the famed Gerotor Pump. Now it is also the heart of many vital war machines.
Quiet MAY Oil Burners

HOT
WATER
HEATING SYSTEMS, INDIRECT WATER HEATERS AND SPECIALTIES
B&G
B.&G HANDBOOK
BELL & GOSSETT CO.
MORTON GROVE, ILLINOIS
Send on your business stationery for this design manual on Forced Hot Water Heating.

Coupons or Oil

(Continued from page 14)

tificates from local boards equal in gallonage to that delivered, but for which the customer has not surrendered coupons after signing coupon notes. Primary suppliers also may get exchange certificates for the gallonage delivered to secondary suppliers on unredeemed coupon notes.

Amendment 25, issued Jan. 9: Extends to January 14 the deadline for redemption of Period 3 coupons at their original value. This amends Amendment 21 above.

Amendment 26, issued Jan. 9: Prohibits discrimination between customers by dealers, and between dealers by their suppliers. Customers at the retail level, and dealers at the wholesale level, must deliver oil to anyone with coupons and cash, so long as their supplies last. Dealers and suppliers may limit customers to a percentage of allowable oil, as long as all customers are treated alike.

Amendment 27, issued Jan. 14: Oil users for cooking, lighting, and industrial applications are allowed a 15-day overlap into the next quarter, providing they have made application for renewal of their ration. This also will allow domestic and commercial heating oil users to use No. 5 coupons until October 15, 1943.

Amendment 28, issued Jan. 14: When the ration is less than 200 gallons for the year, Class 3 (fixed value) coupons shall be issued instead of Class 1 or Class 2 coupons.

Amendment 29, issued Jan. 18: Cuts industrial fueloil users 40%, except hospitals, food manufacturers, transportation services, public utilities, communications, sanitary services, metal production, oil producers and refiners, natural and synthetic rubber plants, essential war plants, and scientific testing and research laboratories. All other industrial users of 9,000 gals. or more for the quarter will be denied oil after February 2, unless they have submitted their fueloil ration sheets for redetermination (reduction of 40%).

Amendment 30, issued Jan. 26: permits a consumer who is out of oil and has no currently valid coupons to get an emergency delivery of up to 50 gallons, but no more than 10% of his year's ration, and no more than once in the season. The dealer takes coupons of a subsequent period, and also gets the consumer to sign an emergency receipt. The dealer then presents this receipt at the local board, gets inventory coupons. Another provision authorizes issuing an emergency ration to operate heating or hot water equipment normally using electricity or gas, if weather conditions or other causes cut the supply of these fuels. This provision apparently assumes that standy-by oilfired equipment is on hand.

Amendment 31, issued Jan. 28: Increases the allowable ration for space heaters in house trailers to whatever amount the applicant asks, but not more than double the maximum point of the space heater range.

Amendment 32, Covers the extension of the rationed area to include Washington and Oregon, based upon an average cut from normal of 25%, effective Feb. 1.

Amendment 33, issued Jan. 27: Authorizes regional directors in Eastern

NOTHING TAKES THE SHOCK LIKE

RUBBER

That's Why This Direct Drive Coupling Prolongs Life, Adds to Efficiency

Exclusive rubber cushion, made with oil-resisting treatment and gripped permanently by die-cast ends, combines positive drive with resilient protection against misalignment and free end float. No parts to get out of order, to lubricate. No backlash. Custom made in various degrees of flexibility, engineered to job. Lengths from 2-1/2" up. Bores 5/16", 3/8", 7/16" and 1/2". Almost a million in service

Write for testing sample and further details.

GUARDIAN FLEXIBLE COUPLINGS

218 E. MICHIGAN STREET MICHIGAN CITY, INDIANA

Want To Mail To This Field?

Use our Direct Mail Service. Send us your literature, stamped and sealed, ready to go. We address them on our up-to-the-minute lists of addressograph plates. Only $6 per thousand names for ordinary addressing, plus small fees for other services, such as sorting, stamping, etc. We have the only accurate oil heating list available today. Many successful advertisers have used it with success. Any state or group of states, or the entire country may be covered.

Circulation Department

FUELOIL & OIL HEAT

232 Madison Ave. New York, N. Y.

PREFERRED DRAFT-A-JUSTOR
THE ORIGINAL. STILL THE BEST.
HUNDREDS OF THOUSANDS IN USE.
Holds the draft constant in the fire box.
Scientific draft control for the smallest to the largest jobs.
Stove, domestic, and commercial sizes from 4" to 24" in diameter.
Industrial sizes from 24" x 24" to 5' x 12'.

WRITE FOR LITERATURE AND TRADE PRICE
PREFERRED UTILITIES MFG. CORP.
33 West 60th St., New York, N. Y. Boston Office: 839 Beacon St.

DONGAN
TRANSFORMERS
FOR DEPENDABILITY
DONGAN ELECTRIC MFG CO.
2981-2991 Franklin St., Detroit, Mich.
"The Dongan Line Since 1909"

States to establish priorities among fuel-oil consumers in the event of a local emergency which endangers public health or welfare or the war effort. Includes types of users, amounts deliverable, hours of delivery; should also conform to existing PAW priorities.

◈

Chicago Coal Operators Pool Retail Deliveries

APPROVAL OF A JOINT ACTION PLAN which will pare an estimated 135,000 truck miles annually off the delivery operations of seventeen Chicago retail coal dealers through cooperative use of truck and yard facilities was announced by the Office of Defense Transportation.

Approval of the Chicago plan—first to be approved in the retail coal industry—is expected to pave the way for similar plans in other cities.

Because of its provisions for the reduction of cross hauling and empty truck mileage, the Chicago plan approaches the maximum in truck and tire conservation, the ODT said.

Operators of local delivery services of all kinds who have not yet taken steps to enter into joint action arrangements with their fellow operators were reminded by the ODT that the country's more than 5,000,000 commercial motor vehicles must get along on less than half as much rubber in 1943 as they used up in 1941.

The plan contains five main provisions:

1. Members may deliver coal from each others' yards and use each others' yard services and trucks for the purpose of reducing cross hauling.

2. Any member whose truck leaves his own yard with a full load for delivery to a customer may purchase coal for succeeding deliveries that day from the yards of the nearest member dealers.

3. Any member of the plan may draw up an invoice for an order of coal and have the coal delivered by another member from the latter's yard on the first member's invoice, when such action will result in mileage saving.

4. If a truck is returning empty to its own yard, it may pick up a load at the yard of another member dealer and deliver it en route for any member.

Water Heater Interpretation

TO REMOVE A POSSIBLE misunderstanding of limitation orders regulating the production of water heaters, especially when the units are connected to laundry stoves or other heating appliances, the Director General for Operations today issued an interpretation (No. 1) of Limitation Order L-185.

Any heating appliances, including laundry stoves or laundry heaters, which have permanently built-in coils for water heating, or which have water jackets as integral parts of the appliances, are water heaters, as defined in L-185.

Such devices as water backs, water fronts, reservoirs, and coils, which perform a water-heating function when connected to cooking stoves or "domestic cooking appliances" as defined in L-23-c (and which are detachable or replaceable), are also water heaters in L-185.

Stoves or cooking appliances to which the water heating devices are connected are subject to the restrictions of L-23-c, although the water heating units are controlled by L-185.

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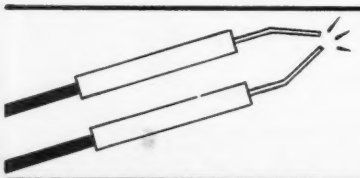

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